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Date	18/10/24

For Office Use Only:	
Library Reference	109/24
Date Received	18/10/24
Bulletin	Oct 24

MFPS Objections to the Scheme as Notified by East Lothian Council in March 2024

Submitted by: [redacted]

23rd April 2024

Objection One: I object to all parts of the scheme which involve narrowing of the River Esk

The project proposes extensive narrowing of the River Esk in the tidal stretch along both sides of the river by between 2 and 5.5 m from the river mouth to the Electric Bridge. The narrowing continues on the eastern bank from Electric Bridge to the Rennie Bridge, the (current) extent of the tidal river. It is proposed to narrow the existing river by c. 10-12%. Plans to narrow the river in the tidal stretch are ill-advised and counter to the objective of reducing flood risk to the town of Musselburgh. The reason the river is being narrowed is to accommodate 5m wide cycle pathways as part of Musselburgh Active Toun (MAT); Sustrans, the majority funder, requires the cycle paths to be located on the dry-side of flood defences. This has required building out into the river extensively, narrowing the width of the river through which water moves through the town from the Rennie Bridge to the mouth of the Esk.

It might seem obvious that narrowing the river will increase the water level. Imagine a given quantity of water in a bath, and now narrow the width of the bath by a third, say, and put the same amount of water in. Clearly, the water level will have to rise to accommodate the same volume of water in a narrower container. The reason why this does not automatically happen in a tidal part of the river is because fresh river water joins a tidal stretch which is, in effect, part of the (to all intents and purposes) infinite water mass in the Firth of Forth. Incoming river water could not raise the sea-level, so there is an equilibration whereby the tidal river level adjusts to the sea-level height.

However, there are hydrodynamical constraints to this process, since the in-coming fresh river water has to have time to mix with the tidal waters. Equilibration is not instantaneous and the speed at which it might occur will depend upon many variables, such as flow rates of river and tidal waters, salinity, topography, wind speeds, surface roughness, and so on. Imagine that the river was narrowed at the Shorthope Bridge from the current width of 35m to, say, 5m. In that case it is obvious that the height of the water will greatly increase because the same quantity of water has to move through a narrow canyon to get to the water mass that is dominated by the Firth of Forth. Therefore, flood defences would need to be much higher to accommodate the impact of narrowing. When, then, is the impact of narrowing the current 35m width to 30m, as proposed by MFPS? Jacobs did actually analyse the impact of river narrowing on the height of defences in the Preferred Scheme Report (2019) and wrote the following:

> *It can be observed that the in-channel defences option* [i.e. narrowing the river] *although presenting some benefits for the construction stage, will require defences up to 600mm higher than the set-back option and also cut the connection between the floodplain and the river channel. Furthermore, public feedback opinion was in favour of set-back defences to maintain public access to the green corridor along the River Esk.*

Unfortunately, this finding appears to have been ignored in the subsequent design of MFPS, where river narrowing is proposed and hard flood defences are proposed right next to the river, rather than being set-back as far as feasible. Despite the extensive narrowing of the River Esk that has been proposed, no evidence of detailed hydrodynamic CFD modelling has been provided to provide certainty that narrowing the river will *not* increase flood risk. One has to assume that the height of the hard defences on the wet-side have been raised by an amount, perhaps c. 600mm, to compensate for the increase in flood risk resulting from river narrowing. This might help explain why the Goose Green flood wall appears to be c. 700mm higher on the wet-side in the design as notified in March 2024 compared to the design presented in June 2023. Increasing the flood risk by river narrowing, and then responding by proposing higher hard engineered structures is perverse, unnecessary and counter to ecological design principles.

One of the main risks of river narrowing enhancing flood hazard is where a **tidal surge** occurs along the Firth of Forth from the North Sea. Surge conditions occur frequently in the North Sea and have led to flooding in eastern parts of the UK, including causing fatalities and extensive material damage where large surges occur. Minor and micro- surge events occur regularly in the tidal stretch of the River Esk in Musselburgh, e.g. driven by differential pressure conditions and/or prevailing wind conditions on top of a high tide. During such events, larger than usual volumes of water enter both the Firth of Forth and into the River Esk. Such a pressure-differential driven surge occurred on the 8th and 9th April 2024 and might have been as high as 87cm on top of the tidal level (comparable to the 0.5% AEP tidal event). The UK Meteorological Office (UKMO) has tended to downplay the impact of climate change upon increased frequency or size of surge events. However, this is not relevant to the argument that narrowing the river increases the risk of flooding from a surge event, since neither UKMO or anyone else is claiming that surge frequency and/or size would reduce under climate change. The river narrowing could increase the risk of flooding arising from the present baseline incidences of surges up the River Esk.

In the event of a surge, the large amount of water that is entering the mouth of the river has to be accommodated and, for a time period, disconnects with the greater mass of sea water due to the prevailing pressure and wind conditions which induce the surge. (This disconnection of a volume of sea water from the great mass of the ocean is why a surge happens at all). In this circumstance, the width of the river will influence the impacts of a surge event upon the extent, hence impacts of, flooding. It is important to maintain as wide a river profile as possible to accommodate the potential increase in incoming water. Narrowing the river in the tidal stretch therefore risks increasing the potential of flooding from a surge event, which is clearly counter to the intended objective of reducing flood risk.

The effect of narrowing the river on the impact of a surge event will depend on the size of the surge. Beyond a certain threshold, the sheer volume of water in a surge will pose a risk of flooding irrespective of narrowing of the river (and would likely overwhelm the currently designed hard defences). Nonetheless, below such a threshold the width of the river will be a factor influencing the impact of a smaller surge. As noted above, appropriate modelling using state-of-the-art methods, such as CFD models, needs to be undertaken to evaluate the nature and size of this additional risk.

A second circumstance in which narrowing the river might increase flood risk is where there is **a combination of a very high river level, such as a 0.5 or 1% AEP event, combined with a high tide coming in from the Firth of Forth**. While the water in the tidal stretch is, under usual conditions, connected to the huge mass of water in the Firth of Forth, equilibrium is not instantaneous as the incoming river water has to have time to mix with the sea water. Mixing is slower because the less dense in-coming freshwater will flow over the more saline tidal waters. The mixing rate will depend

upon other local and contextual variables, such as wind direction and speed, local topography, roughness and so on.

In these situations, the width of the river in the tidal stretch will influence how rapidly the incoming fresh river water mixes with the saline water. Narrowing the river risks lengthening the time over which mixing and equilibration with the Firth of Forth takes place as a smaller volume of water is involved which will potentially cause backing-up of fresh river water and risks increasing flooding both upstream and in the tidal river stretch. By contrast, maintaining as wide a river profile as possible, increases the space for water to mix, hence increases mixing volume. To reduce flood risk the ambition should be to increase the width of the river profile and narrowing the river profile is a backward step which could increase flood risk compared to the current baseline. Compensating by raising wet-side hard defensive structures is perverse: *inter alia* it increases costs, increases the amount of concrete and steel required, increases CO_2e emissions, increases the disturbance to the river profile and its ecosystem.

As with understanding the impact of a tidal surge, it is important that the impact of river narrowing upon the mixing of fresh-water and saline tidal waters is understood with a high degree of certainty. The **precautionary principle** should be adopted here which implies that action with potential to enhance risks such as river narrowing has to meet a high threshold of certainty in evidence and knowledge to demonstrate that risk is not being increased. Put another way, use of the precautionary principle means that no changes should be approved where there is a non-negligible risk of enhancing threat without a high degree of uncertainty that such adverse impacts will not manifest. Such evidence is lacking from the Notification documents. Note that the rationale that MFPS has accepted from SEPA for using the RCP8.5 95%'ile climate change scenario is based upon precautionary thinking so it is only consistent to apply the same approach to the potential impact of river narrowing.

We now need to look at the **need for narrowing the river**. The only reason for reducing the width of the river is to accommodate a 5m cycle pathway on the dry side of the flood wall. (It is also possible that a further additional reason is that it is cheaper to build out over the river and locate defences out into the river as opposed to building to enable the existing wall to be replaced with a better structure). Constructing a new cycle pathway that has not yet gone through planning is a secondary objective to the ambition of MFPS which is solely focused upon flood risk management. Under the Flood Risk Management (Scotland) Act 2009, funding for additional projects such as a cycle pathway, is not allowed as the purpose of the Act is to reduce flood risk (period). MFPS should focus on providing flood protection to Musselburgh and the design of the project should not be influenced by MAT where such design considerations increase the risk of flooding and where it results in mitigative measures which increase overall capital costs and CO_2e emissions. There are numerous examples of where the design of MAT has profoundly shaped the design of the MFPS. Some examples are provided in Table One below. **Mr Carlo Grilli**, ELC Service Manager – Legal, wrote in an email written after the formal Notification of the scheme that:

> *.. it might be argued that in the event that the MAT does not proceed, then having future-proofed the Scheme [MFPS] for the performance requirements of the MAT would have incurred unnecessary additional cost. This, however, is a legitimate risk management decision which the Council is entitled to take, choosing to incur an additional cost in the short term to avoid incurring a potentially larger cost in the longer term.*

This communication demonstrates that ELC fully understands that MFPS is incorporating the performance requirements of MAT. What this argument does not acknowledge, however, is that the

Scottish Government is funding 80% of MFPS so the council contribution is at most 20%. Therefore, the legitimate taker of the risk management decision should be the Scottish Government not East Lothian Council (ECL). In this situation ELC has a perverse incentive to take risks such as including the design requirements of MAT in MFPS as it is not having to cover the true costs of such risk-taking. Instead, the costs of the risks associated with that decision-making are largely being covered by the Scottish Government which is ultimately funded by the general public through taxation. The argument of Grilli also takes it as a given that the cycle pathways are necessary but no evidence has been represented that shows a clear mandate from the Musselburgh public that this is what they would like to see happen and that this is the most appropriate use of limited funding to improve the town.

The principle of 'One Government' needs to be adopted such that critical infrastructure decisions are not being taken by local government in the absence of central government considerations on finance and best value-for-money. Local Government is part of the Government and it is in the public interest for both local and central Government to work closely together to identify the best value-for-money responses. Perverse incentives such as those in Cycle One militate against tenets of good decision-making for Scotland as a nation.

Section / Engineering Design	*Influence of MAT upon the MFPS design*	*Implications and comments*
New Goose Green Bridge replacing current Baillie Bridge (pedestrian bridge next to the Electric Bridge)	The only reason for this new bridge to be located at the mouth of the Esk is to accommodate MAT cycle pathways. There are two large ramps on the eastern side of the bridge that are only included because of MAT.	The Electric Bridge was only built in order to transport the turbine generators to Cockenzie power plant. It has been closed to all traffic most of its life time (including to cyclists and pedestrians) and was, until a few years ago, only opened on race days to allow vehicles to access Musselburgh race course. As it was built for the exceptional reason of moving turbines, it does not need to be replaced. We only need one bridge for pedestrians and cyclists and that should be located by the present Baillie and Electric Bridges. This will reduce the budget, reduce concrete and reduce CO_2e emissions.
New Ivanhoe Bridge replacing the current bridge	Before MAT was embedded into the Scheme, the MFPS Preferred Scheme report stated replacing the Ivanhoe Bridge had been rejected, the reason being, that it would be a "Negligible benefit (bridge not a major flood risk issue due to high soffit levels" (Jacobs).	The only reason for replacing the current Ivanhoe Bridge is to accommodate the 5m MAT cycle routes (the current bridge is just over 2m wide). The new Bridge is a much larger structure than the current one and has an enormous engineered ramp. Keeping the existing bridge will reduce the budget, reduce concrete and reduce CO_2e emissions.
River narrowing	This is taking place to accommodate a new 5m wide MAT cycle path along with existing access roads.	There are risks in river narrowing in addition to the damage to river ecosystems, contrary to the claimed-for objective of river restoration.
Location of Flood Walls	Flood walls are being located right next to the river, especially on the eastern bank. This design has been influenced by Sustrans requirement that cycle pathways are positioned on the dry side of flood defences. A good example is the Mall, where the wall next to the river is only 20 to 30cm higher than the pavement next to the road. A 30cm wall at the pavement's edge would provide the same level of	This has also led to river narrowing. Removing this constraint would enable an ecologically-focused design to emerge that is far more concerned with protecting ecosystems and habitats and aims to use as little concrete and new infrastructure as possible. An ecologically-focused design would help to reduce the budget and CO_2e emissions.

	protection from fluvial flooding to the town but would not protect the cycle pathways.	
Felling of trees, e.g., in Goose Green, where this is not necessary for construction of the flood defences	Trees are scheduled for felling which is only necessary because of the 5m wide MAT cycle pathway.	The visuals provided by MFPS in the formal Notification show the MAT infrastructure in its entirety.
Detailed engineering drawings	The Notification documents represent the combined MAT and MFPS.	It is not reasonable to expect the public to remove the MAT from the detailed engineering drawings in order to attempt to understand what MFPS would now look like if the MAT is removed from it.

Table One: Examples of where the design of Musselburgh Active Toun (MAT) cycle pathways has profoundly shaped the design of MFPS, increasing costs, CO_2e emissions, other environmental impacts and moving the project even further from an ecologically-driven design paradigm

Objection Two: I object to the neglect of ecological design principles and the down-grading of river restoration as a key objective along most of the River Esk in Musselburgh

The Scheme represents a **concretisation** of the River Esk in Musselburgh that is in no way compatible with ecological design principles. The excessive use of concrete has taken away precious and already highly limited space from nature. The sheer amount of concrete helps explain why the project has such a high GHG equivalent footprint. As far as possible, we should be reducing more human interference in the river and along the river banks in favour of enabling nature 'to do its own thing'. Numerous requests for an ecologically-based design from the community have been ignored, most likely because the MFPS and MAT have both been primarily driven by the funding available rather than in a genuine attempt to come up with best solution for the town of Musselburgh.

A further reason why narrowing the river is ill-advised is that **it runs counter to the objective of river restoration**. Narrowing the river is to further canalise the River Esk. The river has been successively modified since the mid-19th Century with very extensive land reclamation and removal of wide areas of the natural river flood plain where the river was able to meander and change course over time. Goose Green is built upon land that was taken from the river bed in the 19th C. The so-called 'training walls' were then constructed in order to ensure that the new, much narrower, course of the river was maintained and were reinforced after flood events, especially 1948. With the construction of the Lagoon Wall in 1971, which had a huge impact on the transport of sediment from the River Esk into the Firth of Forth, there has been massive human interference with the geomorphology and ecology of the River Esk and of its estuarine outlet. Just like the engineers from CPE Ltd and Jacobs now, no doubt engineers in the 19th and 20th centuries also believed they were doing a 'great thing for Musselburgh' at the time, but with the benefit of hindsight we can see that the risks of canalising the river, drastically narrowing the river at what is now Goose Green and removing a large part of the natural flood plain and associated adverse ecological impacts (such as destroying the mussel beds after which the town is named) were grossly misunderstood. It is for these reasons that a new paradigm based upon ecological design principles has been developed in the past few decades, a new way of designing infrastructure that MFPS is not familiar with.

Straightening and narrowing the river since the mid-19th C has led to more rapid flow of water with a consequent impact on ecology and biodiversity due to loss of habitats where the river would have traversed the route in more diverse ways, e.g. different water flow speeds and micro-gradients creating more diverse ecosystems. Canalisation can also increase the risk of flooding where water levels exceed a high threshold, i.e. while canalisation helps to move water along more rapidly in normal circumstances, where there is excessive rainfall and high tidal conditions, the reduced capacity of a canalised water way can end up increasing flood risk. **Therefore, as far as possible, the River Esk in Musselburgh needs to be given as much space as is feasible**. This will have benefits in terms of river restoration (ecology and biodiversity) but also in flood risk management. The logic of this argument implies that hard defences need to be positioned **as far back from the river as possible**. As there are extensive and wide grass banks alongside the Esk at various points through the town, this would imply these grassy banks should be maintained as part of the wider river, and not separated from the river by a hard wall right at the rivers edge, with removal or at least softening of the current artificial brick training walls.

Positioning the hard defences as far back from the river as possible will, inevitably, result in a trade-off between trees located back from the grassy banks, some of which would need to be removed in order to accommodate the hard defences further back. Furthermore, some trees on the grassy

banks that would end up on the wet side of hard defences might need to be removed as they could become a hazard in the event of a 0.5% to 1% AEP event (i.e. through causing obstruction in the water way if they succumbed to the flood waters). While tree removal is regrettable, the reason why I would prefer their removal in order to enable the river to be given as much space as possible, are three-fold: (i) enhancing the river ecology and biodiversity is more important than protecting the trees that are currently alongside the river as it is a less common ecosystem than woodland, (ii) very few of the trees are ancient or veteran, (iii) tree-planting can be undertaken as part of MFPS, though the location for re-planting needs to be considered carefully so as to avoid creating additional flood risk in the town. With an infrastructure project of this magnitude it is inevitable that trees will be felled and, furthermore, trees will die due to extensive disturbance that will accompany construction works. The MFPS design decisions, profoundly shaped by the MAT, ended up trading-off the river restoration objectives of the scheme.

Objection Three: I object to the fact that the EIA is misleading as it is not possible to distinguish where the environmental impacts are due to MAT as opposed to those due to MFPS

The EIA has undertaken its assessment of impacts based upon the 'two projects in one', i.e. MAT and MFPS. It is not possible to separately distinguish the impacts of MAT from those of MFPS. It is entirely unreasonable to present an EIA for MFPS in this way. The EIA should have been withdrawn at the point that MAT was stated by ELC as no longer being in the formal Notification. The EIA needs to be re-done, removing the environmental impacts of MAT from the environmental impacts of MFPS. The EIA for MFPS then needs to be re-published for public scrutiny.

Objection Four: I object to the lack of an adequate options appraisal including of key options that would be more cost-effective, less damaging and more acceptable to the public and which have been discounted without sufficient analysis.

The MFPS has not undertaken a sufficient options appraisal despite its claims to the contrary. It is unclear who was involved in the early years of the project in identifying options and in their appraisal. There is, however, clear evidence of 'group think' happening in MFPS and a failure to involve others from without the team who have important ideas to contribute. One of the largest failings in this regard is the failure to evaluate the use of demountable, temporary hard defences as opposed to building permanent hard defences. The explanation provided for why demountable defences have not been evaluated is that the funding model does not enable operational expenditure to be included in project costs under the Cycle One scheme. This means that a flood protection scheme based upon temporary demountable defences would need to fund the additional operational expenditure from the Council's own budget for the design life of the scheme, i.e. till 2100. This additional opex would have to come from revenue raised by the Council and such revenues are already highly stretched. It is entirely understandable, therefore, that the Council's financial officers will rule out an option that increases opex where there is a paid-for capex option available.

The option selected by ELC has therefore been strongly influenced by the particularities of the Cycle One funding scheme. This does not result in the best solution for the residents of Musselburgh as it incentivises ELC and its consultants to propose a scheme that is overly shaped by the funding scheme. Furthermore, from a 'One Government' perspective, value-for-money requires that whole life-cycle costing is implemented and this would include discounted capex, opex and repex costs over the project lifetime. Whole life-cycle costing is best practice in projectc decision-making and is required by the Scottish Government for flood protection projects (as set out in: *Flood protection*

appraisals: guidance for SEPA and responsible authorities - gov.scot). The requirement for whole life-cycle project costing was confirmed in a letter from SEPA to Sarah Boyack MSP (November 2022) that is in the public record.

Investment in demountable defences would be a far more cost-effective solution at providing the given standard of protection. Clearly, avoiding the capex of permanent flood walls and embankments by using demountable defences would save many millions of £ capex expenditure. If the saved capex could be put into a fund to cover the costs of operational expenditure associated with installing demountable defences as and when required, then the overall cost of the scheme would be lower on a whole-life cycle costing basis. A separate analysis is now being undertaken to estimate the costs of a scheme based upon demountable defences, *contra* the capex heavy solution MFPS has proposed, and will be available in due course.

Whole life-cycle costing methods should be being developed with help of the Scottish and UK Treasury under the principle of One Government as all stand to gain from cost-savings and such form of hard defences will be far more acceptable to the Musselburgh townsfolk and to visitors to the town. They will greatly reduce the loss and damage that MFPS will cause to the town. Such demountable defences are widely used in the UK and across the world. There is a huge amount of experience in their operation and much tried-and-tested engineering and operational know-how on the part of the main suppliers. Demountables will require permanent placements at ground level, so still require an engineering-led solution, with appropriate procedures to put in place for personnel to install the flood panels or other devices when required. Demountables is an active response rather than passive (such as the existing design) and have been used successfully in towns and cities similar to Musselburgh for decades. How many ELC officials or Councillors have been properly informed of this option?

The obvious criticism that will be made of the use of demountables is that Musselburgh requires a permanent flood defence scheme. My reasons for disagreeing with that view are explained below. The last major flood in Musselburgh was in 1948. Musselburgh does not have a history of flooding in the way that other places do such as Dumfries, where Whitesands is prone to serious flooding every year or two years. Hawick has suffered from a number of 2% AEP flood events in the past few decades. Musselburgh has experienced 2% AEP events in 1990 and 2000. In 1990, there was a very small amount of flooding of the north High Street, but this was largely due to the accumulation of debris on the Shorthope Bridge and could have been avoided. The historical record makes it obvious that Musselburgh is not as prone to flood risk at present as settlements such as Dumfries, York, Shrewsbury, Tewksbury, Bewdley, etc. Of course, Musselburgh is going to become more prone to flooding with climate change from both more intensive rainfall and from sea level rise. However, there is a lot of uncertainty associated with how rainfall and hence river levels will change, hence uncertainty in which climate change scenario to use and in the detailed methodology for downscaling from a global climate model to a prediction of fluvial peak flow amounts. This is by no means a 'finished area of science' from which a number can be generated with any degree of certainty as an input to a flood estimation curve.

As we move into the future, uncertainty will reduce, in part because the signal of climate change will become stronger relative to natural variability and, in part, because scientific research will have improved, in particular downscaling climate models to the local level and better use of data. This gives us an important 'breathing space', whereby demoutables can be deployed for the next time period (a decade or more) while uncertainty is reduced and knowledge of the potential role of Natural Flood Management (NFM) in the Esk catchment is rapidly advanced. We would then look at the options armed with better scientific knowledge of the hazards and of the options available.

A proper analysis of demountables would look both backwards and forwards. E.g. it would start with an analysis of how many times demountables, if installed, would have been deployed in the past 60 years (the time frame over which peak fluvial data is available from the river gauge). This would also analyse the specific vulnerable points, as demountables do not need to be installed along both sides of the river for the vast majority of high river flow / level events which have occurred. In 2023 local demountable barriers at Eskside West were deployed on seven occasions and did a very good job at protecting areas at risk. Such temporary defences were not required on the eastern side of the Esk during these high river level events.

The analysis would then look forwards using a range of climate scenarios to drive meteorological models to simulate rainfall extremes in the next several decades to 2050. The simulation would provide estimates of the extent and frequency of use of demountables in the town. Estimates of costs would then be assembled and compared to benefits of flood protection using the prescribed Treasury Green Book methodology. In addition to the capex of installing permanent foundations and associated fixtures into which the demountable structure is secured, and of purchasing the panels or other temporary hard flood defence structures, included in costs are appointment of a key responsible official in ELC, maintenance of demountables, storage, ensuring workforce trained and available to install, repair costs, and perhaps a contribution to individual property-level protection measures such as flood gates, etc.

Where there is a perceived worry by residents arising from the use of demountable fixed defences, it would be wise to explore the use of some individual / small group property-based protection, such as flood gates. This approach would give us space and time to work on Natural Flood Management in the catchment (and Nature-based Solutions at the coastal zone) and, in the meantime, new flood risk management approaches and technological options will be being explored and implemented in other parts of the UK and internationally from which we can learn. There are examples of towns which have used demountables for several decades but then have decided to build permanent flood defences, due to continued occurrence of flooding and risk of breaching demountable defences. This is always a future option when we have more certainty from experience and improved knowledge of the options. It will also be much clearer in 20 years, which of the future climate change pathways we are traversing. We are still in the zone where it is very hard to distinguish *between* climate change scenarios in terms of empirical evidence of change but greater clarity will be forthcoming in the next two decades. A big unknown at present is the role of NFM. There is no NFM in the River Esk catchment at present but this does not imply that NFM cannot make an important contribution.

The exclusive focus on capital expenditure now is a consequence of the **perverse incentive** that the Scottish Government scheme creates whereas a more responsible, 'One-Government' approach, is to pursue the most cost-effective route over the project lifetime. This will be a better solution for Scotland as a whole which is surely what policy makers at **all** levels of government should be aiming for? Saving on project costs in Musselburgh will mean that more funds are available for flood risk protection works in other towns and cities in Scotland.

Objection Five: I object to the lack of agreement with the residents of Musselburgh on the Standard of Protection from flood hazard to use in the MFPS

Why was no consultation on the standard of protection been included at any point, despite Mr Alan Stubbs promising this to the public in Brunton Hall in February 2022 in response to a question from the [redacted]? SEPA has also noted that 'appetite for risk' by intended beneficiaries of a FPS should feature in designing a flood protection scheme. MFPS's own survey on the issue following the June 2023 exhibition, namely Q5 regarding the level of protection, does not show agreement on

use of 0.5% AEP. Of the TOTAL responses, only 28.7% agree or strongly agree that the Scheme should protect against the 0.5% AEP flood event. Why ask the question then ignore the response? Nowhere does it state that ELC has to use 0.5% AEP as its standard of protection. SEPA provides *guidance* not instruction. SEPA refers to 0.5% AEP for new development but assuming that no new building is being planned for the flood plain, the only development would be change of use or modifying or demolish and replace buildings in their existing location. There is a concern in Musselburgh that ELC is using the 0.5% AEP SoP in order to enable **more** new development in future in the flood plain. Building more properties in the flood plain would be highly irresponsible since the MFPS cannot guarantee protection from future flooding, even if the scheme is built, as it has explicitly admitted below:

> *There will always remain a risk of a larger flood event than the Scheme protects against, and all indications are that climate change will make future flood risks worse.*

Hence, increasing the property that is vulnerable to flooding would be counter to the intentions of the Flood Risk Management (Scotland) 2009 Act. Will ELC provide a clear statement that it is not intending to sanction any new build in the flood plain and that it will commit not to use the MFPS as a way of legitimising this? If no new build is required, then why is the 0.5% AEP being used without consensus from the people of Musselburgh? Who is actually making these decisions on behalf of the people of Musselburgh?

Objection Six: I object to the fact that the full report *Musselburgh Coastal Change Assessment* (Dynamic Coasts, February 2024) was not available to Councillors and Council Officers at the time that the Councillors met on 24th January 2024 to decide on whether to move MFSP to the Statutory Notification stage.

Only a one page draft summary of this crucial report was made available to Councillors at their crucial meeting in January 2024, at which the decision was taken to move the MFPS to Statutory Notification stage by the end of March 2024. The Dynamic Coasts report contains crucial information that has a substantial impact upon the evaluation of the coastal component of MFPS. If this information had been available in time for January's full council meeting, there is a reasonable prospect that the MFPS would not have been progressed in its current form. This is explained further below in Objection Seven. The decision by Council on progression towards Notification should have been delayed until publication of the full report such that Council Officers and elected members could read and understand the implications of the full report by Dynamic Coasts.

Objection Seven: I object to the proposed construction of the entirety of the sea wall from the mouth of the River Esk to the Brunstane Burn.

Dynamic Coasts report *Musselburgh Coastal Change Assessment* has provided several powerful reasons why the hard and hybrid defences proposed along the coastal stretch of Musselburgh (westerly side of Esk – mouth to Brunstane Burn) is a premature project. Dynamic Coasts provides very valuable reasons why, before proposing new hard defensive barriers and flood protection structures at the coastline, ELC needs to first undertake a Coastal Change Adaptation Plan (CCPA), following guidance from the Scottish Government document *Coastal Change Adaptation Plan Guidance* (Interim Guidance) (2023). The curious thing is that ELC is already committed to undertaking CCAP in 2024/25 and the SG Guidance is clear that the CCAP is the wider context in which more detailed flood protection measures, including any new hard defensive structures, should subsequently be proposed. Dynamic Coasts has also made it clear that Nature-based Solutions (NbS) must also be considered in the options appraisal that would follow-on within the CCAP framework

(e.g. DC, 2024:34). Why has ELC proposed a major hard defensive structure all along the coast line from west of Esk mouth to Brunstane Burn before undertaking the CCAP?

The problem with MFPS plans in this coastal zone is that there is a very real hazard arising from locating defensive infrastructure in the wrong place, namely too close to the MHWS and Vegetation Edge. Figure 16 of DC's report shows this clearly, whereby coastal erosion for RCP8.5 intrudes landward of the proposed defensive structure by 2050. There is then a major risk of erosion of the defensive structure itself and within the next twenty years.

> *… anticipated beach erosion and lowering is expected to negatively impact the existing **and proposed** flood management structures (see Table 2), initially within limited sections by 2040 but across the majority of the shore front in later decades. Such a situation presents a risk to the performance of the proposed flood management structures as they are not designed to withstand marine undermining or storm wave overtopping. (DC, 2024: 34).*
>
> *Analysis of historic and future coastal change … shows that, under a range of futures (ranging from best case to worst case emission scenarios), the existing **and proposed** flood management structures are expected to be at risk from coastal erosion. (DC, 2024: 32).*
>
> *These analyses strongly support concerns that the erosion risks at Musselburgh have the potential to impact upon both existing **and proposed** assets* [i.e. MFPS proposed scheme] *unless the future risks are managed. Table 2 identifies that the hybrid defence (adjacent to the Park) is **expected to be directly impacted within the next decade** (i.e. now-2030) **under all emission scenarios**. (DC, 2024: 27).*
>
> *ECL's current coastal management policy and the proposed position of the flood management structures mean that short-term coastal management options focus on maintaining the current configuration, and **alternative approaches (e.g. managed realignment and/or adaptation by relocating assets) may not have been fully considered** since SMP publication. Nevertheless, ELC's coastal management policy doesn't explicitly consider how 'Hold the Line' will change, as climate risks increase. **This represents a discord with the Guidance*** [from Scottish Government on CCAP, 2023] *meriting its reconsideration within the wider review. (DC, 2024: 33).*
>
> *Note that **the proposed coastal flood management structures are neither designed nor certified for any coastal erosion protection function**. (DC, 2024: 34).*

See also Figures 27 and 28 of the DC report to appreciate just how close the hard defences proposed are to the historical record of high tidal events (i.e. within the 10m trigger point at Mountjoy carpark). The Dynamic Coasts report includes an important section on beach nourishment (see page 35) and it is clear that there are additional operational costs involved in such a strategy which have not been considered by MFPS yet which will likely be necessary as part of the CCAP. There is then a very important section entitled *A future based on erosion resilient flood management structures*. This section describes the hard civil engineering solution in the following way.

> ***Such an approach is anticipated to result in retreat, narrowing and lowering of the beach**. In time this results in reduction in the protective function of the natural beach, reduction and eventual loss of recreational and amenity value of the beach and reduction in the habitat functionality of any designated intertidal and supratidal habitats. …. **A possible end point is the complete loss of the beach itself**. (DC, 2024: 35).*

MFPS previously stated that it could not countenance any relocation of properties (managed realignment) due to flood hazards. By contrast, *Dynamic Coasts* has explained why, under the high climate change scenarios and over time under all climate change scenarios, it is necessary to consider re-locating some assets away from the shoreline (see DC, page 36). Finally, Dynamic Coasts make important Recommendations to ELC on page 42 which need to be fully addressed before scheme goes ahead.

Objection Eight: I object to the poorly explained and arbitrary use of Climate Change Scenarios

For **sea-level rise**, MFPS is using SEPA's guidance. The 95%'ile is used and justified on pages 18 and 19 of SEPA's Guidance. Their reasoning is that sea-level rise will continue beyond 2100 and the ocean will take hundreds of years to come back into equilibrium with the atmosphere. Of course, the rate of rise might not be as predicted by the RCP 8.5 scenario 95%'ile if we can control GHG emissions globally in time. The UKCP scenarios, which is where SEPA gets its numbers, has values for sea-level rise under different climate change scenarios and for the 5%'tile (oddly they don't provide the 50%'ile). Values in Table Two are for Firth of Forth.

Scenario	**RCP2.6**	**RCP4.5**	**RCP8.5**
5%'ile	8 cm	15 cm	30 cm
95%'ile	49 cm	61 cm	90 cm
Global temp change by 2100	1 to 2°C	2-3°C	3-5°C

Table Two: Sea Level rise for Firth of Forth under a range of climate change scenarios (source: UKCP 2018, UKMO)

It is clear that the value chosen depends on the percentile used more than the RCP scenario chosen, i.e. the scenarios vary by 100% or so while, within the same scenario, the values vary by 300% to 500% depending on which %'ile is being chosen. Not all climate scientists and analysts agree with SEPA, however. Professor Roger Pielke Jr of the University of Colorado in Boulder argues that RCP8.5 (akin to the more recent scenarios being used by the IPCC called SSP5-8.5) is not the trajectory of current global emissions. The peer-reviewed article in *Environmental Research Letters* by Pielke and colleagues (link below) illuminates which of the IPCC and IEA emission scenarios are plausible and concludes that RCP8.5 is not a scenario that is plausible. Rather, the scenarios with global mean surface temp change of between 2 and 3 DC by 2100 are the plausible ones based on a detailed analysis in that paper (whereas RCP8.5 is a world with between 4 and 5 DC change in global mean surface temp change). IPCC AR6 (2021) has also stated that: "the likelihood of high emissions scenarios such as RCP8.5 or SSP5-8.5 is considered low".

https://iopscience.iop.org/article/10.1088/1748-9326/ac4ebf

One implication is that a medium change scenario such as RCP6 or RCP4.5 is the more plausible scenarios to use at the coastal zone to represent global climate change. SEPA justifies use of RCP8.5 at the 95%'ile as follows:

> ……*we have opted to base the guidance on this scenario* [RCP 8.5 using 95%'ile] *given that the intended nationally determined contributions of those countries signed up to the Paris Agreement suggest that we are currently on a higher emissions pathway than 2°C. We consider this to be an appropriately precautionary approach for this guidance given that it will help to inform significant and long-lasting land use planning decisions.*

However, the medium climate change scenarios also predict a higher emissions pathway than would deliver 2°C by 2100, so the above explanation does not explain why use RCP8.5 rather than, say, RCP4.5 or RCP6.5? Furthermore, SEPA does not explain why it proposes use of the 95%'ile rather than, say, the 50%'ile or 67%'lile.

Using a precautionary approach begs the question of where precaution ends. We can frame this as the question: how safe is safe enough? It is a question than science cannot answer as it depends upon our collective values and how safe we individually and collectively wish to feel and, of course, we all vary. Who, then, is deciding on our behalf what level of precaution we wish to adopt?

There is a c. 9% chance that global warming will exceed RCP8.5 (explained in Wagner & Weitzman, *Climate Shock*, 2015, Princeton University Press). To be sufficiently precautionary should an even higher climate scenario than RCP8.5 therefore be used? Note that the Committee on Climate Change (Scottish Government, *Is Scotland Climate Ready?*, 2022) suggests that RCP8.5 at 95%'ile is a 'high emissions' scenario, but that a 'credible maximum scenario' would imply a mean sea level rise of 1.9m above present by 2100. Has MFPS looked at this credible maximum scenario to explore resilience of hard or hybrid defences to this sea-level change? How is MFPS determining the appropriate level of precaution to be adopted in analysis of the problem and in designing a response? Who is involved in making that decision and where is it documented?

For the **river flow levels**, MFPS has used RCP6.5 at the 50%'ile to come up with a 28% increase in the peak flow level. It is believed that RCP6.5 is a mistake by MFPS since it is RCP6 that has been developed by the IPCC. SEPA again uses RCP8.5 for river flow levels, but it is not entirely clear what %'ile has been used. SEPA's value given for Forth catchments is 56% by 2100. MFPS has used a value of 28% in the scheme, while noting this is the value at 2050 for RCP6.5 at 50%'ile. SEPA has also stated that they do not have the ability to work out allowances earlier than 2100 due to the cyber-attack on their organisation. Where has MFPS's value come from? And why is the value referenced to 2050 and not to 2100? It appears as if MFPS is adopting a 'pick and mix' approach to climate scenarios to suit their design preferences, whereas **it is illogical to use different climate change scenarios in the same place and time** (at the minimum it needs to be properly explained, otherwise it appears to be arbitrary).

For Pinkie Burn, MFPS has used **rainfall intensity changes** to estimate flow levels (the catchment not being understood well enough or large enough to use the peak flow level approach). SEPA recommend using 39% increase in intensity by 2080 (again based on RCP8.5). MFPS refer to the use of RCP6.5 50%'ile to give 25% (again referenced to 2050). Where does this value come from? It is only reasonable that the public can check these numbers in a peer-reviewed or central government approved report.

Objection Nine: I object to the premature dismissal by MFPS of the role of Natural Flood Management (NFM) and other Nature-based Solutions (NbS)

MFPS has written that:

> *The scope of the project required Jacobs to consider natural, sustainable and catchment flood risk management options from the outset. An initial report was produced during Project Stage 2 (known as 'the Review of Existing Studies') and a further assessment was completed during Project Stage 3 (known as 'The Options Appraisal Process') supplemented this. These reports fed into the overall Options Appraisal Process in the ultimate determination of the 'Preferred Scheme'.*

Regarding Jacob's reports on NFM referred to above, the conclusions on the limited role of NFM/NbS are not supported by the very preliminary research undertaken with incomplete models. A note pointing out the technical limitations was prepared by [redacted], [redacted] and [redacted] and submitted in June 2022. No response has been forthcoming.

MFPS has written that:

> *At this time, after a comprehensive Options Appraisal had been completed, the project team had concluded that Musselburgh could not be protected without new physical defences in the town, and that the 'Preferred Scheme' contained the maximum number of substantial natural and sustainable flood risk management options in the catchment that were deliverable within the Scheme.*

I would agree with the first statement (i.e. new physical defences in the town are needed). However, in the second part, I presume this refers to the short stretch of the River Esk that is in East Lothian. There is very limited opportunity for NFM in the East Lothian Esk north of the A1 to the outlet so the Preferred Scheme probably does contain most of the NFM options, especially given landownership meaning several candidate areas cannot be considered, etc. However, this begs the question of what NFM could be undertaken in the majority of the River Esks (north and south) which lie not in East Lothian but in Midlothian. It is in these reaches of the River Esks that many more opportunities for NFM are likely to arise rather than in the 4km of the river from the A1 to the edges of Musselburgh. As the Jacobs report by [redacted] of Jacobs states further into the report (on page 12):

> *..where they [NFM measures] are constructed furthest downstream then the catchment is not used efficiently.. It could therefore be considered that, for NFM to be most effective, measures need to be implemented on a whole-catchment basis rather than within selected parts of it.*

Best practice in FRM is to adopt river catchment-wide plans for assessing and managing flood risk and the Flood Risk Management (Scotland) 2009 Act makes many such statements congruent with the principle. Measures that are not directly related to reducing flood risk are not eligible for funding under the Flood Risk Management (Scotland) Act 2009, e.g. including Nature-based Solutions that are more concerned with ecological and biodiversity river restoration or new parkland or possible new place-making assets. While such projects may well be desirable in their own right, it is prudent to avoid confusion in terms of different funding sources for MFPS so that the public are aware of the tentative character of such non-flood risk management components. The vast majority of funding for MFPS will come under the authority of the 2009 Act so it is reasonable to expect the project evaluation to be undertaken primarily in relation to the requirements of that Act (while recognising the emerging role of NPF4).

MFPS states:

> *It is highlighted that, based on our current understanding, these sustainable engineering measures will contribute more to reducing flood risk in Musselburgh, than if wholescale NFM measures were delivered across the c.330km^2 of the River Esk catchment.*

What is the evidence to support this statement? The Jacob's NFM reports stated that Roseberry and Edgelaw reservoirs could contribute to storing 2% of the total volume of an 0.5% AEP event for a height of 1m of additional water stored and this would reduce baseline flood depths by 40 – 80mm and reduce flood defence levels by up to 120mm. Or, if 3m additional storage was possible at both reservoirs, the total volume of water stored for a 0.5% AEP (1:200 year return period) would be 6.4%

and a reduction in baseline flood depths of 100 – 250mm and a reduction in flood defence levels of up to 330mm. If this assessment from May 2020 is still the correct values, which assumption has been made in the statement above regarding whether 1m or 3m water height is adopted? Have the asset owners agreed to these measures being implemented and to what extent? And how do the 40 – 80mm or 100-250 mm reductions in baseline flood depths relate to the reduction in peak flow?

Assuming the % reductions in peak flow for the 0.5% AEP event are something like 4% (for additional 1m) to 12% (3m), if the claim is made that the role of the reservoirs in reducing flood risk is greater than wholescale NFM measures in the whole catchment, the implication is that the contribution of NFM is lower than 4% to 12% depending on whether a 1 or 3m additional water height options is implemented. Note that more recently MFPS has stated that the Roseberry and Edgelaw Reservoirs will have a 2m additional water height, which would deliver a c. 10% reduction in peak fluvial flow for 0.5% AEP.

Unless Jacobs has done catchment-wide and extensive modelling of a wide range of NFM options and scenarios in the catchment than it reported on in 2020, it cannot be stated what is the potential reduction in peak flows for hydrological events of different frequencies. We know from research, including from published meta-analyses in hydrological journals and by the Environment Agency in England, that there is very high uncertainty regarding the potential for reduction in peak flows from NFM, with a very wide range of estimates from 0% to 25% and a few outliers with larger values. These estimates are, of course, highly variable in part due to the distinctive characteristics of each catchment and will also depend upon frequency and type of hydrological episode involved. In short, there needs to be evidence to substantiate the claim made above.

MFPS states the following:

> *Detailed hydraulic and hydrological modelling of the NFM measures constructed on the Eddleston Water project has indicated a 5% reduction in peak flows at downstream receptors, thereby demonstrating their effectiveness against flood events on a catchment of 69km^2.*

The 5% reduction in peak flows according to the Lancaster University hydrological model used appears to operate for Eddleston Water across a wide range of return periods. Even for a 1:5 yr RP event the reduction in peak flows at Eddleston Water is 6.9%. I suspect there is a lot of uncertainty associated with this 5-7% and am interested in knowing what the error bars are.

MFPS is incorrectly extrapolating from the Eddleston Water NFM project to make inferences about the River Esk. Rather than having prematurely concluded that the role of NFM in the River Esk is c. 5% reduction in peak fluvial flow for a 0.5% AEP event, MFPS should have undertaken a comprehensive meta-analysis, or at least a Systematic Review, such as following this example: 'A systematic review of natural flood management modelling: Approaches, limitations and potential solutions' *Journal of Flood Risk Management* (2023). This would have shown that the 5% value is just one estimate in a much larger range (approximately 0% to 25% and some cases showing a much larger impact).

MFPS writes that:

> *…… the Scheme has worked from its earliest state to deliver natural, sustainable, and catchment-based flood risk management measures to reduce the flood risk to the town of Musselburgh. The Scheme included substantial sustainable flood risk management measures within the 'Preferred Scheme' that was approved by ELC Cabinet in January 2020.*

What is the evidence of a catchment-wide approach that involved detailed discussions with Midlothian Council from the 'earliest state' of the scheme? No one is pretending that this is straight forwards or that solutions can be achieved in a short time. However, given that we are likely to see a paradigm-shift in the development of a new flood resilience strategy by the Scottish Government, does not the Esk catchment in Midlothian and East Lothian offer the ideal opportunity to start on a new four-pronged flood resilience approach? Namely, natural flood management, property-level protection, community engagement and hard defences. This could be a path-breaking project that will have huge benefits for the other 30 local authorities in Scotland and will bring a lot of attention to the two counties. We need this sort of ambition if we are to respond to the triple crises of climate change, biodiversity and renewed societal engagement.

MFPS writes that:

> *Furthermore, that it is not reasonable to continue to strive to deliver more NFM measures within the Scheme given the inability of the project team to identify any further measures between 2020 and 2023 and the conclusions summarised in Section 6 of this report.*

An answer here is to remove the 2020-2023 time horizon imperative from MFPS. The time horizon could be extended for an additional three years, to 2027. MFPS can be submitted in Cycle Two of the funding scheme, along with other projects, but with reassurance from the Government that the move to Cycle Two does not in any way reduce the importance of a sustainable flood protection scheme for Musselburgh. ELC has now accepted that Haddington FPS will take place under Cycle Two funding, thereby putting paid to the misleading claim by [redacted] of Jacobs at the full Council meeting on the 24th January 2024, where he is on record as claiming that if Councillors paused MFPS then the 'money would dry-up'. Since when did Councillors and Council Officers get their information on government spending from representatives of private companies who have a vested interest in the decision?

Jacobs Report on the Eddleston Water Visit

> *Finally, since the reduction in peak flow attributable to NFM measures is not yet reliably quantifiable during design, NFM would be more suited to offsetting future increases in flood risk due to the effects of climate change rather than protecting against a defined present-day flood risk. This is because both the effectiveness of the NFM measures and the future flood risk attributable to the effects of climate change would be uncertain at the time of construction. (page 14).*

It is important that the uncertainties of both the effectiveness of NFM and of the effects of climate change upon future flood risk are acknowledged. However, MFSP has assumed a given level of climate change in its Outline Design that comes with a specific % increase in the river flow level with no uncertainty bounds, i.e. it is presented as a prediction which is precisely the reason climate scenarios were created twenty years ago in the research community to avoid. In using as a prediction (i.e. 28% increase in fluvial peak flow by 2100) with no error bounds, the uncertainties in the effects of climate change on flood risk are eliminated, even though these uncertainties are well known and widely regarded by hydrologists as being rather large. Why are the uncertainties in one case (effectiveness of NFM) being highlighted and in the other case (climate change) they are eliminated? We have to be more honest in acknowledging scientific and technical uncertainty and in finding better ways of presenting and communicating such uncertainty. People cope with all sorts of uncertainties in their lives and it does not usually mean inaction (life would come to a grinding halt if that were the case). Part of community engagement, *contra* top-down consultation, means having a

mature discussion about uncertainty and how we collectively respond to it in coming up with resilient strategies. There are well established methodologies for undertaking such community engagement that MFPS could have been adopting.

Objection Ten: I object to the lack of explanation of why Gladhouse Reservoir cannot be included in the Sustainable Flood Management (SFM) measures

A One Government approach means ELC, MLC and SW working closely with SG to explore whether Gladhouse Reservoir could be used for SFM alongside the two much smaller Edgelaw and Roseberry reservoirs that already part of MFPS.

Objection Eleven: I object to the confusing information on the number of properties that are identified as being at risk and hence protected by MFPS

Over the last few years, we have received contradictory information on the number of properties that are to be protected by the MFPS. In a 2015 Annex to ELC, it is claimed that the number of Musselburgh properties at risk is 1906. The non-technical EIA summary in January 24 had "around 3000" protected. The March 2024 leaflet posted by MFPS to Musselburgh residents stated "in the order of 3200" and the EIA released in 2024 provides the number as 2279. Why does the number keep changing? What number has been used in the Benefit-Cost Assessment (BCA)? Has the BCA been changed in response to the changing estimates of numbers of properties protected?

Objection Twelve: I object to the lack of explanation of why the peak fluvial flow levels for the 0.5% AEP event have changed at least four times in the past few years

MFPS calculation of the flow rate for the 0.5% AEP event at Musselburgh have changed substantially over the past five years. It has also been presented as a different value even in the same reporting period. The value in May 2019 was given as 300 m^3/s while in February 2023 it was given as 244 m^3/s (a c. 20% reduction). While the *Interim Hydrology Report* of May 2019 provided a value for the 0.5% AEP flow rate of 300.49 m^3/s, in the *Preferred Scheme Report* of November 2019, a different value of 222.43 m^3/s is provided. There is no explanation of this discrepancy. In February 2023, Jacobs presented a new value of 244 m^3/s though without explaining how this figure was calculated.

Objection Thirteen: I object to the way that the adjustment to fluvial peak flows of the River Esk have been made to take account of changes in mine water pumping

There is a discrepancy in the adjustments made (using 1990 as the date) and the date at which mine pumps were shut off (c. 1998). It appears that pumped mine waters were returned to the River Esk upstream of Musselburgh and were not diverted. Therefore, mine water pumping would have had much less of an impact upon the river flow levels in the Esk than if they had been diverted. This raises questions on the accuracy of the pre-1990 'corrections' to the River Esk flow rates. The use of the 'corrected' pre-1990 data may have a large influence on the calculation of peak fluvial flow using the statistical extrapolation as in the *Interim Hydrology Report*. This needs to be carefully checked with the relevant experts and, if appropriate, a different method of correction of the data set for pre-1990 needs to be examined and the peak fluvial flow rate versus return period re-calculated.

Objection Fourteen: I object to the lack of access to any revision of the Benefit Cost Analysis despite changes to the fluvial peak flows and to the height of the defences

There are no updates to the BCA available to the public since the original was published in the Preferred Scheme. However, many features of MFPS have changed in the meantime and updates of the BCA must have been taken place internally. I object that I have not been able to see the revisions of the BCA.

Objection Fifteen: I object to the failure of ELC to keep a copy of the report that was written about the 1948 flood event in Musselburgh

MFPS has prepared what it calls a 'historical map' of the 1948 flood event in Musselburgh. However this is not what it claims as it is actually a model simulation inferred from very limited empirical data. Yet, ELC previously undertook creation of a map of Musselburgh which includes residents memories of where flooding took place in the town during the 1948 flood. I am not sure when the map and associated report was created but it was likely to be in the 1980s, when many local residents who had experience the 1948 flood were still alive. This map and report appears to have been thrown away, or at least lost, by ELC. If it had been retained, it would have provided vital information for understanding what actually happened in the town when we experienced an event that was something like 0.5% AEP. It beggars belief that ECL would lose or throw away such an important document. I request that a thorough search is undertaken to see if the key document can be found.

Objection Sixteen: I object to the failure to seriously consider closure of the Mill Lade from the River Esk outlet at the upper weir to Balcarres Place

MFPS has had to consider the flood risk of the Mill Lade. The Mill Lade no longer has any valid function. MFPS should have proposed closing the Mill Lade at the upper weir to avoid an unnecessary flood risk in the town. The argument has been presented to me that the Mill Lade 'cannot be closed-off' because there is a SEPA-approved abstraction license. However, the irrigation waters for the Race Course can be supplied by the Pinkie Burn. Some properties in the town may well be using the Mill Lade still for aqueous emissions disposal rather than disposal of waste water emissions into the sewerage system. There are, for instance, some fast-food outlets and restaurants situated about the Mill Lade and they might well be using the Mill Lade to dispose of waste water. However, any such emissions should cease as they are likely to cause pollution in the River Esk below the lower weir where the joint Mill Lade and Pinkie Burn exit. Has the water quality of the outlet into the River Esk been measured? MFPS could have made the project simpler by simply removing the Mill Lade as a potential risk.

Objection Seventeen: I object to the poor quality of the EIA undertaken for the ornithology component.

A detailed critique of the EIA as it applies to the impact on bird life is presented by Ornithological Societies. It is extremely disturbing that the quality of the EIA is so deficient. Why have key stakeholders who know the situation extremely well not been consulted?

Subject: (0372) Musselburgh Flood Protection Scheme - objection
Sent: 23/04/2024, 14:13:07
From: [redacted]
To: Musselburgh Flood Protection Objections
Attachments: [redacted] MFPS.docx

Follow Up Flag: Follow up
Flag Status: Completed

Dear Mr Grillo,

Please find attached my letter containing my objections to the Musselburgh Flood Protection Scheme. Please acknowledge receipt of my letter of objection, in writing, and advise me of next steps, and timescales.

with best wishes,
[redacted]

[redacted]

23 April 2024

Carlo Grilli
E Lothian Council
John Muir House
Haddington
E Lothian
EH41 3HA

Dear Mr Grillo,

I am writing to object to the recently published Musselburgh Flood Protection Scheme. I live in Musselburgh and have significant concerns about the design, scale, cost, presumptions, and impact of the proposed scheme. I do not believe that insufficient time and care has been given to consider alternative design proposals.

The impact of the scheme, as proposed, would be hugely detrimental – both in the short term of the construction phase, and in the long term as well. The plans – with two metres high walls, would destroy the character of the town and do not reflect the best options available to combat the risk posed by flood. Such walls would soon be covered in graffiti, further detracting to the ugly, intrusive, and destructive impact of the scheme. At a point when it is widely recognised that the appreciation of the amenity value of the town is significantly contributing to improvements economically, it seems foolish to begin a scheme which will have such a negative effect.

The construction of a high wall, the erection of large new bridges, and the installation of five metre-wide paths - something that is entirely unnecessary, will have an adverse impact on the area.

As a contributor to central and local government tax coffers, I do not accept that this is the best way to spend public money. It is obvious that the current proposals, emphasising 'hard' landscaping 'solutions' have been arrived at with little consideration given to upstream alternatives, to help water be better absorbed there – for example, increased tree planting, the removal of drains in upland areas, and the redesign of tributary waterways that would – without question – lead to a reduction in the water flow reaching Musselburgh.

I object to the published scheme on the following grounds:

Science and information provided thus far by East Lothian Council –

1) The Scheme does not offer alternative scenarios. It is tied to a one in two-hundred-year event. Scottish Government guidance says that a range of scenarios should be included. How could the Council judge what is necessary protection without being given a range of options?

2) The Council has commissioned a report on the coast from Dynamic Coast, but this is not yet available publicly – why has this not been made public? Why is the public not being shown this information? Local residents have asked to see the data underpinning the scientific calculations of the project team, but these requests have been ignored. What is the reason for the lack of transparency?

3) The project team say they have adjusted flood defence heights in response to local feedback. This amounts to fitting the science around the preferred outcome, rather than science/data leading to a properly calculated outcome. This makes no sense.

4) The Council was informed that natural flood management (NFM) should be restricted to 3 interventions (use of 2 small reservoirs in the Pentlands, and a tree-catcher in Dalkeith Country Park). NFM could include a whole range of techniques to flow the slow of the river throughout the catchments, and to encourage the natural dune system along the coast. The fact these were discounted at the start is wrong and the situation is made worse by the exclusion of NFM decided upon in October.

   The Council halted inclusion of NFM on the advice of the project team in October 2023. The evidence to support this was a report on the Eddleston Water project. That report is flawed, and the science behind the report was presented to the Council in a misleading way. NFM can and should take centre-stage in flood protection.

5) All the indications are that the use of NFM, nature-based solutions and a flood resilience (rather than prevention) approach are preferred over building flood walls. Even in massive river catchments like the Severn, these approaches are being discussed and trialled. The flood walls in Brechin (built/renewed 2015) recently failed. The flood gates in Perth recently failed. Man-made interventions cannot prevent flooding downstream – we need to do more upstream to slow/store the water so it doesn't rush down through the town.

6) The Scottish Government is heading towards NFM. On 23 December 2023, the Minister stated https://www.parliament.scot/chamber-and-committees/questions-and-answers/question?ref=S6W-23835 "*The Scottish Government recognizes the importance of natural flood management (NFM) measures in reducing, slowing or otherwise managing flood waters across catchments and along the coast while also delivering multiple environmental benefits*." Why is East Lothian Council not in step with the Scottish Government?

Cost –

7) The scheme is currently costed at £132M in total, including £53M for the flood protection part – but you have not provided no cost breakdowns to the public. Why not?

8) The Council has been told the cost is likely to rise. How can the Council have voted this through with so little information?

9) Why has no cap been put on the cost?

10) East Lothian Council has stated that if they do not secure the Cycle 1 funding, they will get nothing. But that is not true, there will be funding in Cycle 2, which should be onstream after April 2024, and Musselburgh would be eligible.

Transparency and process –

11) The engineers appointed to design the project have also been allowed to write the environmental impact assessment (EIA). Why?

12) These engineers carried out an options appraisal that ruled out all alternatives to the current scheme, without those options being made available for public scrutiny or debate. Why?

13) Throughout the scheme the consultants and engineers have not been subject to challenge or adequate scrutiny. Why? This is a public scheme, paid for by public money, which will affect thousands of members of the public. So why are not at the heart of the decision making process?

14) On 23 January 2024 , the Council agreed to the scheme progressing, even though they had not had sight of the full EIA, only a 'non-technical summary'. Why was the decision taken, given the huge gaps in information?

15) In January 2020, East Lothian Council Cabinet voted through the preferred scheme. Given the value of the scheme, this should have been approved by the full Council. The Cabinet did not have the power to vote on a scheme of this magnitude. Why was a full Council meeting not held?

16) It is clear, from the huge levels of public protest to what is proposed that ELC has failed to win the case for its proposals. Does this not tell you something? Many eminent local residents – retired engineers and town planners amongst them – have highlighted the many flaws with what is proposed. Are you suggesting that these people are simply wrong? Those of us protesting do so out of love for the place we live – not because we are NIMBYs but because we vehemently disagree with the notion that what is proposed represents a sensible, proportionate idea.

Multiple benefits and active travel –

17) The scheme has become entwined with the Musselburgh Active Toun (MAT) proposals, but the cost of the MAT scheme is unknown and is likely to require a 30% contribution from ELC, which has never been openly discussed. Why?

18) MAT proposals do not contribute to flood protection – so why has the Council chosen to conflate the two issues? The answer posited by many is that the Council wishes to minimise and reduce public scrutiny of the MAT proposals. Why are they not separate, to ensure proper scrutiny using the normal planning permission process?

19) The proposed new Goosegreen bridge does not add flood protection to the town. Why has ELC suggested it does?

20) The MAT proposals included in the scheme are now much grander than those originally discussed and consulted upon. Why have the revised versions not been put back out for public consultation?

21) Why is ELC considering a 5.5m wide path in some areas? Tarmac/concrete will reduce soak-away space (ironic as this scheme is supposed to help reduce the likelihood of flooding).

22) Trees and grassed areas will be felled and covered over with man-made, carbon-intensive building materials. This is not in keeping with the stated aim of working with nature.

General amenity, health and well-being –

23) The project will take at least 5 years to build. It will be a major cause of disruption. There will be pile-driving all along the river. This will result in hugely increased levels of noise pollution and increased air pollution, thanks to works traffic.

24) What consideration has been given to people's wellbeing, living for that time amid a building site?

25) The banks of the Esk and Fisherrow Links are Common Good land, and any interruption to their use by the community should be compensated. What plans does ELC for that?

26) Hundreds of people enjoy these amenities every day, where will they go to benefit from being in nature and by water?

Please acknowledge receipt of my letter of objection, in writing. Please advise me of next steps, and timescales.

Yours sincerely

[redacted]

From: [redacted]
Sent: 23 April 2024 14:34
To: Musselburgh Flood Protection Objections
Subject: (0373 DUPLICATE OF 0242) Re: Objections to Musselburgh Flood Protection Scheme.

Categories: [redacted], Added to excel spreadsheet

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Sent from my iPad

> On 22 Apr 2024, at 15:50, [redacted] wrote:
>
>
> Carlo Grilli,
> Service Manager—Governance,
> Legal Services,
> East Lothian Council,
> John Muir House,
> Haddington,
> EH41 3HA
>
> Objection to the Scheme's detrimental effect on Musselburgh's Historic Features.
>
> The town of Musselburgh is one of Scotland's oldest. It is steeped in history and many visitors to Musselburgh Museum enjoy following the Timeline, which stretches from the Bronze Age to the Millennium. We have also found that our visitors like to walk along the river or along the promenade to the harbour.
> I and so many others thoroughly enjoy similar walks,when we can watch the seabirds, admire the antics of the geese, ducks and swans, look over to the Fife coast, and admire the trees and wildflowers as the seasons change.
> Much of our history is closely linked with the seafront, the harbour and the river Esk.
> The traditions, character and features of our ancient past are precious to all of us: residents and visitors alike.
> Flood walls, Bundts and a massive new bridge at the mouth of the Esk are not what I want for my beloved town.
> There is no urgency other than the 80% grant of money being offered by the Scottish government.
> We will need flood protection in the future but, as was reported after a hydrological survey of schemes around Britain, engineered solutions such as the one Jacobs propose to build over the next 5 or more years in Musselburgh, are destined to fail.
> The Guardian, January,27th, 2024.
> "We cannot engineer a way out of this — let nature play a role."
> There is time to take the advice which came from that survey:
> LOOK TO NATURE.
> Through using nature based methods; scoffed at and largely
> unresearched by Jacobs Team, our historic town can in the future, be protected from rising sea levels, high tides and fast flowing river water.
> With the passing of time, fresh initiatives are emerging and will continue to do so.
> WE HAVE TIME.
> I object to £135m but probably much more, (Jacobs were unable to guarantee to councillors that the price would not continue to rise.) being spent by taxpayers on a scheme likely to fail when required.

> Please let us promote our town , with its many tourist attractions,
> rather than desecrate it with an out of date scheme which will disrupt the lives of so many residents by noise, storing and movement of machinery, tree felling , bridge and wall building and much , much more.
> We can show the country that Musselburgh can be protected from future
> flooding without massive carbon emissions, while keeping the well-being of our citizens at the centre of nature based plans which will, in the end , cost a fraction of those at present continuing to rise. Nature based solutions will largely negate the environmental destruction which the proposed scheme will indubitably engender.
> Yours faithfully and sincerely,
>

Subject: (0374) Submission to Musselburgh Flood Protection Scheme consultation
Sent: 23/04/2024, 14:50:15
From: [redacted]
To: Musselburgh Flood Protection Objections

Follow Up Flag: Follow up
Flag Status: Completed

Dear Mr Grilli,

I am writing to object to the proposed Musselburgh Flood Protection Scheme 2024 (the Scheme).

My name and address are:

[redacted]

Coastal defences and Dynamic Coast erosion report

I object to the current proposals from the mouth of the Esk to the Brunstane Burn (work sections 6-16) on the grounds that the expert report commissioned by ELC from Dynamic Coast, which was not available to Councillors when they voted on the Scheme, makes clear that there is a "wider and currently unaddressed future erosion risk… that may threaten the Scheme's proposed defences and other assets along the town's frontage". This report was clear that further action will certainly be required in order to protect the new defences from erosion, but the Proposed Scheme gives no indication of what this might be, including costs, feasibility, or environmental impact over the long term. Rather than proceed with the Scheme as planned, which did not take this into account, our council and community should consider ways to address both flood risk and coastal erosion together.

Committing East Lothian Council to a particular line of defence for the next 100 years fails to provide the "managed, adaptive approach" that the Scottish Government advises must be taken in areas of coastal change and which the Scheme's own design statement claims to follow. It also puts unnecessary constraints on the Council's Coastal Change Adaptation Plan, which is being carried out this year, and which will now have to work around a fixed line of defence without consideration of alternatives, in contradiction to the guidance issued by the Scottish Government around these Plans.

The rate of erosion predicted by Dynamic Coast along the Musselburgh coastline contradicts the assumption that the defences will last for 100 years. The report's analysis of erosion on the proposed flood defences showed "direct impact is likely to occur relatively soon, most likely 2030-2040 but potentially earlier" (p.25). This undermines many key aspects of the case for the Scheme:

- The project fails to meet one of its initial stated environmental objectives: that "the scheme will consider the impacts of climate change" (EIA §4.1).
- It directly contradicts the statement in the Environmental Impact Assessment (§12.1) that Scheme assets "have an inherently low vulnerability to climatic factors and the likely variation in these due to climate change. Consequently, this aspect of the climate change assessment is not considered further in this chapter and the focus is on assessing GHG emissions and their potential impact on climate". Thus, this chapter, as applied to these sections of the proposal, is inadequate and cannot be considered to fulfil the legislative requirements.
- The estimates of benefit to cost ratio are now incorrect. Undermining of the proposed coastal defences here will incur much greater maintenance costs (and currently unaccounted for emissions) and likely reduce the standard of protection.

Biodiversity

I object to the current proposals on the grounds that the loss of ancient woodland is unacceptable and the mitigations proposed do not make up for it.

The EIA states that 0.33 hectares of ancient woodland will have to be felled in construction of the scheme, while also highlighting that NatureScot has described such habitat as an ‘important and irreplaceable national resource’ (§7.42). Further efforts must be made to avoid this loss during the construction period, in particular, at Pinkie Playing Fields where the ancient woodland is used for forest school and otherwise available to school pupils for their wellbeing and education.

I object to the current proposals on the grounds that the biodiversity enhancements are not strong enough and further commitments are needed, e.g. catchment biodiversity improvements and consideration given to installation of a rock ramp for Eskmills Weir. The biodiversity enhancements, as required by NPF4, should be far more ambitious and should include some ’traditional’ Natural Flood Management actions such as tree-planting, pond creation or leaky dam structures in the catchment (these actions being included under biodiversity enhancement in recognition of the fact that their flood reduction impact is uncertain and therefore cannot be the main justification for their inclusion).

Further biodiversity enhancements relating to the River Restoration project should be included within the town of Musselburgh, including work to improve the water quality of the Mill Lade and Pinkie Burn (both assessed as limited ecological value in the EIA, Ch7), and the installation of a ‘rock ramp’ for fish passage at Eskmills Weir, as recommended by Forth Rivers Trust as ‘having many benefits over other types of fish passage’.
Concerns over Contribution to Climate Change

I object to the overall carbon impact of the Scheme as it stands because the proposed mitigations in the Environmental Impact Assessment (Ch 12) are all described as ‘potential’ actions, or actions that ‘could’ be explored through the proposed Carbon Management Plan. While the EIA gives a range of positive suggestions, without a robust means of enforcing them there is a significant risk that they will be seen as optional.

At a minimum, adherence to the CMP must form part of the procurement process for all contractors. Further, the sustainability credentials of contractors should carry some weight through that procurement - for instance, a company with a large proportion of electric vehicles in their fleet might score more highly than one with all-petrol vehicles (this would be far more effective than simply training drivers in fuel-efficient driving techniques).

Until these suggested secondary mitigations are mandatory, the overall effect on Global Atmosphere – Climate from the Scheme must still be considered Moderate Adverse- Significant, and I object to it on that basis.

Yours sincerely,

[redacted]

Carlo Grilli

Service Manager – Governance

Legal Services

East Lothian Council

John Muir House

Haddington

EH41 3HA

[redacted]

23.04.2024

Dear Mr. Grilli,

Musselburgh Flood Protection Scheme

Further to my letter of 05/04/24 I am writing to further object on ornithological grounds to the recently published Musselburgh Flood Protection Scheme.

As both a resident of Musselburgh and birdwatcher [redacted], I am a frequent visitor to the river mouth, seafront and lagoons of the Musselburgh area which I would classify as one of the (and possibly the) best birding sites in the Scottish mainland.

I object because the Environmental Impact Assessment (EIA) Report that East Lothian Council has commissioned does not meet the necessary requirements set out in EIA guidance and does not allow East Lothian Council to fulfil its biodiversity duties. Specifically:

Inadequacy of the EIA Report's Ornithology Baseline

The results presented in the EIA Report from surveys of shoreline and coastal birds (the 'through the tide counts') are insufficiently detailed to adequately assess the impacts of the Scheme on these species. This failure is especially important because the Scheme is adjacent to, or in places actually within, the Firth of Forth Special Protection Area (SPA), the Firth of Forth Ramsar Site, the Firth of Forth Site of Special Scientific Interest (SSSI), and the Outer Firth and the St. Andrews Bay Complex SPA. These are internationally and nationally important designated sites for birds, and any assessment of impacts on these designations require must be informed by comprehensive robust and appropriately detailed baseline data. The EIA Report does not present such data.

It is therefore essential that baseline bird survey data are properly presented, specifically that the distribution and abundance of qualifying features of the SSSI, SPAs and Ramsar site at least are mapped to species level and their abundance shown for each survey area (notably through the tide count survey areas), along with the key areas for roosting and foraging of those species. Without this information, the EIA lacks the necessary detail to enable consultees to judge whether or not the applicant's assessment of impacts from the Scheme is correct. Consultees cannot therefore also judge whether proposed mitigation measures are adequate, or whether the identification of residual impacts on birds can be relied upon. For all these reasons, the baseline survey data in the EIA in its current form is not fit for purpose. It needs to be rectified by the submission of Further Environmental Information, and until that is carried out, I object to the Scheme on grounds of inadequate baseline bird data being provided in the EIA Report. As additional bird surveys are still being undertaken, the more detailed results requested can be published at the same time as these additional data (but all to the appropriate level of detail).

On top of this failure to present survey results to the required level of detail for such a sensitive area and for such important species, the desk study component of baseline data collection has also been inadequate. To accord with EIA guidance[1], baseline bird data should comprise both survey results and relevant pre-existing data on bird species present, their national and local population trends, and insights into their relevant behaviour. The Firth of Forth has been the subject of intense ornithological study spanning several decades[2], and it is reasonable to expect that this body of data would have been drawn upon for the EIA Report, not least given the sensitivity of the area and the need to design appropriate and effective mitigation measures for construction impacts and impacts over the 100 year operational life of the Scheme. The desk study data included in the EIA also fails to meet the requests from key stakeholders. Notably, for example, the East Lothian Biodiversity Office who requested in their Scoping Report (see ELC on 28th November 2023, EIA Appendix C3.2) that '*The field surveys should be informed by a data search from ... useful data (that) may be available from sources including the East Lothian Council Ranger Service, British Trust for Ornithology and Scottish Ornithologists' Club'*.

Starting with the Scottish Ornithologists' Club, the EIA fails to incorporate into its ornithology baseline any of the comprehensive pre-existing bird data that exists for the Scheme area, collected over several years by highly experienced local ornithologists, many with decades of expertise in the area's bird life. It would be expected, at the very least, that given EIA guidance[3] and to comply with the request from East Lothian Council's own Biodiversity officer that the EIA authors would have submitted a data request to the Local Bird Recorder of the Lothian Branch of the Scottish Ornithologists' Club (SOC) to obtain relevant bird records for the area impacted by the Scheme. This was not the case, and therefore the EIA ornithology baseline suffers by not having the detailed insights into species presence, abundance, distribution and behavioural patterns to adequately inform its assessment (including of cumulative impacts), mitigation design and proposals for enhancement. This is

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[1] See the Environmental Impact Assessment Handbook: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment process in Scotland Version 5, April 2018. NatureScot and Historic Environment Scotland.

[2] E.g. Bryant, D. (1987) The Natural Environment of the Estuary and Firth of Forth. *Proceedings of the Royal Society of Edinburgh, Section B: Biological Sciences*, Volume 93 , Issue 3-4:, pp. 509 – 520 DOI: https://doi.org/10.1017/S0269727000006916

[3] For example, see C.6.3 and Box C. 6. Practice .1. in the reference cited in Footnote 1.

particularly the case for the assessments of impacts from the Scheme's construction compounds, the seawall improvement works, and the two sections of the Musselburgh Active Travel Network (ATN).

Moving on to obtaining desk study data from the British Trust for Ornithology (BTO), this key organisation administers a number of bird recording schemes, including the Wetland Bird Survey (WeBS), which cover this area. It is EIA good practice, as part of gathering desk study data for developments in coastal areas, to obtain and present WeBS results, alongside survey data. Bird surveys commissioned for EIAs are inevitably restricted to relatively short-term sample surveys, comprising snapshots of bird activity. The WeBS scheme and its predecessor have been running for decades and provide important long-term insights into species composition and abundance of waders and wildfowl of key sites, and long-term population trends. In particular, for large designated sites like the Firth of Forth SSSI/SPA/ Ramsar, WeBS data are also essential to place local bird populations (i.e. the birds present in the Scheme area) in their wider Firth of Forth context, so that impacts from the Scheme, and cumulatively with other projects, can be adequately assessed. Whilst it is noted that in Section 7.3.3 of the EIA it states that the desk based assessment included data responses from organisations including the BTO, detailed WeBS data are not provided. The reference to WeBS data is limited to total species counts (in the EIA Section 7.5.6.1 'Desk-study and preliminary ecological appraisal'). This states:-

'Data obtained during the desk-based assessment identified the potential presence of the following protected species within the study area:

• Wintering wetland birds: the BTO Wetland Bird Survey (WeBS) data for the five-year period from 2013/14 to 2017/18 identified a total of 70 species of wetland birds (which includes unidentified and hybrid species) within the Eastfield to Musselburgh WeBS sector. Of these 70 species, 55 were recorded in the winter months during this period. The five-year mean peak count of wetland birds within the Eastfield to Musselburgh WeBS sector is 4,878 individuals, with a five-year winter mean peak recorded as 5,259 individuals (see Appendix B7.4 for details)'.

Instead of these agglomerated count figures, the EIA Report should provide the species-specific WeBS data. Furthermore, and contrary to the Chapter's statement that details of WeBS data are provided in Appendix B7.4, there are no details provided on the WeBS data for the area in that Appendix. What is required for the EIA (and HRA) is a map of the WeBS count sector to compare with the survey areas used for the through the tide counts, and for the WeBS data to be tabulated by species, comparing abundance figures from the survey work. Neither are presented in the Biodiversity Chapter or any of the published EIA Report Appendices.

Lastly in relation to the WeBS data, the totals that are presented are out of date, being '*from 2013/14 to 2017/18'*. The desk study for the EIA should have obtained the most recent five-year dataset available, i.e. up to the 2022/2023 non-breeding season, to help inform the assessment.

The inclusion of detailed WeBS data is common practice in EIAs (and HRAs) for coastal developments, in particular where developments overlap or are in close proximity to internationally important sites designated for their bird interests. As already highlighted, without these details, it is not possible to contextualise or corroborate the survey data provided by the applicant. This and the wider omissions in desk study data need to be rectified by the submission of Further Environmental Information, and until that is carried out,

I object to the Scheme on grounds of inadequate baseline bird data being provided in the EIA Report.

Baseline Survey Accuracy

The bird survey data on which the Scheme's EIA Report depends appears to contain apparent anomalies, with some species noted that either have only very rarely ever been recorded locally and other species which may be mis-identified. The inclusion of these records undermines confidence in the reliability of bird (and other) survey work carried out for the EIA Report, and also in the rigour of the quality assurance processes that have been applied during the collection, processing and writing up of data used in the EIA Report. Specific examples include records of Stone-curlew, Water Pipit, Twite breeding, "flyover" Wood Warbler, Whimbrel in November, a Kittiwake flying up the river Esk (Appendix 7.4). Based on over 60 years of data held by the SOC, these records require verification. The almost daily coverage by experienced birdwatchers over the survey period also points to other anomalies, such as occasions when a large count of Velvet Scoters is reported in the EIA Report at a time when only a Common Scoter flock was present. Such questions on the reliability of the survey data are critical, given the conservation importance of qualifying features of the Firth of Forth SSSI, SPAs and Ramsar sites and Outer Forth and St Andrews Bay Complex SPA in such close proximity (and in some areas, overlapping) with the Scheme. It also underscores the importance of consultation with bodies such as the SOC and BTO to ensure that pre-existing data for the Scheme area are obtained, adequately used to aid data validation and quality assurance, and properly integrated into baseline data.

One further concern over the baseline survey surveys is the validity of the 'through the tide counts' which coincided with the construction activity for the new lagoons between 2021 to June 2023. Given that the EIA Report acknowledges that construction traffic along the seawall will cause disturbance to birds (including qualifying features of the Firth of Forth SSSI, SPA and Ramsar site), evidently the results from these surveys were not representative whilst the lagoon construction was on-going. NatureScot guidance on bird surveys clearly highlights the principle that surveys should not take place where there is disturbance that may change the abundance, distribution or behaviour of birds within the survey area[4]. This precaution has not been followed therefore, and it further undermines the reliance that can be placed on a significant proportion of bird survey data used in the EIA Report.

It is understood however, that bird surveys are still being carried out, I therefore object until these un-impacted additional bird survey results are published as part of the submission of Further Environmental Information and HRA.

Failure to Identify and Assess Habitat Loss from the Scheme

The EIA Report attempts to identify and quantify the loss of habitats from the Scheme, to assess the significance of these losses, the mitigation that will be required and the resulting residual impacts and their significance.

However, it completely fails to identify the main habitat impact from the Scheme, namely the loss of shoreline and inter-tidal habitats over its 100-year operational life. These losses will occur as a direct result of the Scheme's construction of hard defence structures along the

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[4] Although relating to bird surveys for wind farms, the importance of avoiding construction disturbance that may affect survey results is made clear in Section 2.1.1 and Box 1 in NatureScot (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. March 2017, Version 2.

coast where these are currently absent or limited, through what is known as ‘coastal squeeze’. This impact needs to be fully identified and assessed in the EIA Report, in particular the Scheme’s proposed hybrid wall structures at Work Sections 6 and 7 (impacting 325m and 290m of coastline respectively) and its concrete walls along Work Sections 8 and 9 (impacting 393m and 132m of coastline respectively) (see Table 4-2 ‘Summary of Scheme by work section’ in Section 4.4.1 Scheme Layout Overview, and Figures Appendix A41j to A41l in Appendix A of the EIA Report). The existence of this operational impact is not even mentioned in the EIA Report Biodiversity Chapter, let alone assessed, with only the most cursory mention given in 7.5.9.3 ‘General trends’. The EIA Report therefore does not meet its own commitment (in Section 3.6.2 ‘Future baseline’) to complete ‘*Where appropriate, an appraisal of the future baseline without the Scheme … where feasible to allow for consideration of the operational impacts of the Scheme over its 100-year design-life’*.

This is of particular concern because these habitat losses will impact the qualifying features of the Firth of Forth SSSI, SPA or Ramsar Site (and the conservation objectives of the latter two designations).

The omission of this impact in the EIA Report must be rectified and the necessary modelling and full assessment of habitat loss from coastal squeeze be fully assessed and published as Further Environmental Information. The assessment of these habitat losses on the integrity of the Firth of Forth SPA and Ramsar Site must also be included in the HRA, to inform the compensation that will be required, if should a derogation case be accepted.

Given how important this impact is, it is also worth re-stating the Council’s published Scheme objectives (EIA Report Chapter 4, Section 4.1 and Table B4 in Appendix B4) that include the following Environmental Objectives:-

1. That the Scheme will achieve as a minimum a neutral impact on the environment.

2. To ensure that the Scheme includes appropriate catchment and natural flood management (NFM) measures.

3. To ensure that the Scheme considers the impact of climate change and includes appropriate provisions to mitigate any impact.

4. To ensure that the Scheme considers in full, and includes for any appropriate measures, to protect the Firth of Forth and its protected statuses.

Clearly, these objectives cannot be achieved if the Scheme’s impacts are not adequately identified, assessed, and mitigated and if mitigation or enhancement proposals (such as those in EIA Report Table 7.7) are not considered in terms of resilience to sea level rise and climate change.

In addition to failing to include operational habitat loss, the habitat loss figures that are currently included for construction and operational impacts lack clarity and consistency across the Biodiversity Chapter and Appendices. For example, the extent of temporary lost habitat given in Section 7.6.2.1.1 ‘Firth of Forth SPA and Ramsar’ is given as ‘approximately 2.14 ha’ but the habitat breakdown figures only add up to 1.711 ha. Similarly in Section 7.6.3.1.1 ‘Firth of Forth SPA and Ramsar’, the permanent loss of habitat from the Firth of Forth SPA and Ramsar is given as 4.3 ha, but again the figures for the habitats lost amount to just over 1.46 ha. This lack of clarity and inconsistencies in the EIA Report make it difficult for consultees to clearly understand the scale or location of the Scheme’s habitat impacts. It

is important that these losses are clarified, including in the HRA prior to its finalisation, and if necessary, through the submission of Further Environmental Information.

Failure to Appropriately Identify Plans and Projects to Consider for the Cumulative Impact Assessment

Section 7.3.9 '*Cumulative effects'* of the EIA Report identifies that *'A review of developments in the local area as listed on the East Lothian and Midlothian Council planning portals was conducted. The assessment focused on developments of any size within the working areas and those over 1 ha in size up to 5 km from the working areas in Musselburgh and the reservoirs. In addition, Grangemouth Flood Protection Scheme (GFPS) was also considered as part of the assessment, as requested by NatureScot during consultation for GFPS'*.

The cumulative assessment needs to encompass developments that have significant potential to impact key ecological receptors. The potential for cumulative/in combination impacts is determined by impact pathways, not by arbitrary thresholds such as development size or distance from the Scheme (neither of which have any regulatory basis or reflect CIEEM guidance)[5]. Movement of birds around the Firth of Forth SPA/Ramsar site have been relatively well studied, and this information should be referred to in order to help determine potential impact pathways, and thereby the plans and projects that need to be taken account of in the cumulative/in combination assessment. It is important that this impact/pathway/ receptor approach is adopted in the HRA's 'in combination' assessment, if made available to consultees, otherwise through the submission of Further Environmental Information.

Repeated Lack of Evidence to Substantiate the Findings of the Impact Assessment

In order to comply with EIA guidance, it is essential that the assessment of impacts is supported by appropriate evidence. However, the EIA Report consistently fails to provide evidence to back up the assessments made on construction and operational impacts of the Scheme on birds.

The rare instance when evidence and published peer reviewed information is referenced in support of the assessment of impacts is for kingfisher (see section 7.6.2.3.4). Kingfisher is only a species of regional importance, yet the EIA Report's assessments of impacts on internationally or nationally important bird species are repeatedly made without any reference to peer reviewed or other evidence, or even to standard NatureScot guidance (for example, in relation to disturbance, Goodship and Furness 20226). A typical example of unsupported assertions is in Section 7.6.3.1.1 'Firth of Forth SPA and Ramsar', which states 'The remaining area to be lost within the SPA is comprised of habitat rarely used by qualifying species and therefore is considered unlikely to provide functional habitat'. There are no data presented to back up this assessment, since the EIA and its Appendices omit the necessary detail on the distribution and abundance of individual species.

This is a clear omission and weakness in the EIA Report, is contrary to guidance and good practice, and reduces the reliance that can be placed on the assessment or effectiveness of mitigation proposed. It also falls short of the robustness and detail of EIAs for other

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[5] Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. September 2018 Version 1.2 - Updated April 2022

6 Goodship, N.M. and Furness, R.W. (2022) Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

developments in the area[7]. Furthermore, East Lothian Council, who commissioned the EIA, has an actual duty to protect and enhance biodiversity. This duty cannot be adequately discharged without detailed baseline EIA (and HRA) bird data from which impacts on birds or other wildlife can be assessed, mitigation designed, and residual impacts identified.

It is also important to note that for the HRA the best available scientific evidence must be used, and the Council, given its Scheme objectives and biodiversity duties, must ensure that this is the case, being responsible for commissioning the EIA Report (and HRA).

Repeated and Unsubstantiated Downplaying of Conservation Importance and Impacts in the Assessment

There are repeated instances in the EIA Report's Biodiversity Chapter where assessments of impacts on birds downplay (i) the value of their habitats - because it is stated they are already subject to disturbance, or (ii) the significance of disturbance to birds - because it is stated they will move elsewhere within the SPA, or (iii) impacts being insignificant - because the area of impact is small. These assertions are consistently unsubstantiated by evidence (as already highlighted above) and are a style of assessment more typical of commercial developers seeking to justify damaging protected sites. These assertions are inappropriate in those circumstances, but are totally inappropriate for Councils, given the legal and policy obligations they are under to protect and enhance biodiversity, notably the Nature Conservation (Scotland) Act 2004 and National Planning Framework 4 (NPF4). Furthermore, no reference is made to the fact that many wildfowl and wader populations in the Firth of Forth have already suffered long-term declines as a result of development impacts, disturbance and habitat loss[8], and that approximately one third of the Firth of Forth SPA/ Ramsar's qualifying species are in unfavourable conservation status (Protected Nature Sites (sepa.org.uk), accessed 19.04.2024). The Councils around the Firth of Forth, together with the Scottish Government, NatureScot, businesses and local communities, need to be working together to ensure qualifying features of the SSSI, SPA and Ramsar site return to favourable conservation status.

Examples of the unsubstantiated downplaying of conservation importance of habitats or species, and of impacts are, for example, in Table 7-5 Summary of Baseline Conditions and Evaluation of Importance of Ecological Features, which includes the statement that 'The sand dunes within the study area are narrow and disturbed; therefore, it is considered they do not meet the SSSI designation criteria'. In Section 7.6.2.1.1 'Firth of Forth SPA and Ramsar', another unsubstantiated statement is made, 'The area temporarily lost during construction constitutes a narrow linear area adjacent to the coastline which experiences high levels of disturbance from public use. This area is not considered to be important habitat for qualifying interests of the Firth of Forth designated sites, in comparison to the large expanse of sand flats along the coastline and the lagoons at Levenhall Links'. There is, however, no evidence to back up these assertions, on factors such as prey availability, carrying capacity, exposure to disturbance, or any of the other influences that need to be

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[7] See, for example, the inter-tidal and near-shore bird data presented in Appendix 6C: Intertidal and Near-shore Bird Surveys of the Inch Cape Onshore Transmission Works EIA report (ICOL,2018b) at OnShore-EIA-Appendix-6C-1of-2.pdf (inchcapewind.com) and OnShore-EIA-Appendix-6C-3of-4.pdf (inchcapewind.com). Others include the EIAs for SSE Seagreen 1A and for the Cockenzie Combined Cycle Gas Turbine Power Station application.

[8] e.g. McLusky, D., Bryant, D. and Elliott, M. (1992) The impact of land-claim on macrobenthos, fish and shorebirds on the Forth Estuary, eastern Scotland. *Aquatic Conservation*: *Marine and Freshwater Ecosystems* Volume 2, Issue 3, pp. 211-222, or Dwyer, R. (2010) Ecological and anthropogenic constraints on waterbirds of the Forth Estuary: population and behavioural responses to disturbance. *Environmental Science, Biology*.

considered in order to robustly assess these impacts. The same applies in the assessments made in Sections 7.6.3.1.1 Firth of Forth SPA and Ramsar, 7.6.3.1.2 Outer Firth of Forth and St Andrews Bay Complex SPA, and 7.6.3.1.3 Firth of Forth SSSI. These are sites of international and national importance for conservation, already under significant multiple pressures, and it is essential that assessments of impacts are evidence-based and robustly reasoned. This is not the case currently, and this must be rectified. It is therefore essential that the Council (or Scottish Ministers) exercise the right to request further evidence, through Further Environmental Information and in the finalised HRA, in accordance with EIA guidance (see for example, NatureScot and Historic Environment Scotland (2018), referred to in Footnote 1, specifically Section D. 6), before confirming the Scheme.

Disturbance to Birds During the Scheme's Operational Phase

Related to the point of objection above on lack of evidence to support the assessments on international and national designations (in Sections 7.6.3.1.1, 7.6.3.1.2 and 7. 6.3.1.3), the EIA Report notes that:-

'*The improvements to the active traffic network (particularly along the seawall and at the proposed Goose Green Footbridge) may result in increased pedestrian and cyclist traffic, which may create increased operational disturbance to qualifying bird species'*.

Evidently the Council's EIA Report makes it clear that it is uncertain whether or not the ATN works will result in increased active travel, in which case how can the expenditure, additional risk of impacts on internationally and nationally important designated sites, and carbon footprint of constructing these two ATN elements of the Scheme be justified? Without strong independent evidence that there will be sufficient active travel benefits, these two elements need to be removed from the Scheme (not least as there are already footpaths and cycle paths along these sections of the Scheme coastline).

That objection aside, these EIA Report sections contain no evidence to support the assessments made operational disturbance, and as such they are unsupported conjecture. This needs to be rectified (including in the HRA), firstly be inclusion of clear evidence-based and quantified prediction of the level of increased activity as a result of the ATN path and Goose Green Foot Bridge construction, compared to present levels [9], and secondly by ensuring the assessment of disturbance impacts on each qualifying species of the SPAs, Ramsar and SSSI are made on the basis of these predicted operational levels of activity, and supported by an appropriate level of detail and evidence.

Until such time as these are provided, I object to the Scheme.

Impacts on Recreational Amenity Over the Construction Period, Specifically Birdwatching

Musselburgh is one of the most visited birdwatching sites in Scotland (based on the number of referrals to the Musselburgh entry on the SOC's Where to Watch Birds in Scotland' mobile app), enjoyed by hundreds of visitors every year. This tourism and amenity value of the Scheme area for birdwatching is not given recognition in the EIA Report, and as a result there is insufficient attention given to mitigating disruption to this activity. This is significant because, as noted in EIA Report Section 4.7.3 'Sequencing of construction work', the Scheme's construction phase could take a period of five to ten years, imposing long-term damage to the area's use and reputation as an ornithology visitor attraction.

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[9] Presumably these estimates are available from the business case for use of public money on the Musselburgh Active Travel Network.

The Decision to Date by East Lothian Council Not To Publish the Draft HRA

No access has been provided to the current draft HRA for the Scheme. It would be greatly appreciated if the HRA could be made available by the Council, not least because, it would provide those with detailed local knowledge of the area's birds to provide useful feedback. In addition, in the meantime, it is respectfully suggested that the Council make a request to the SOC for relevant pre-existing bird data, and also to BTO, for species level and up-to-date WeBS data, so both sets of information can be included in the HRA and used as evidence to contribute to a robust assessment of effects from the Scheme alone and in combination with other plans and projects.

Please acknowledge receipt of my letter of objection, in writing. Please also advise me of next steps, and timescales. Thank you very much.

Yours Sincerely,

[redacted]

[redacted]

Subject: (0376) Objection to Musselburgh Flood Prevention Scheme
Sent: 23/04/2024, 15:02:02
From: [redacted]
To: Musselburgh Flood Protection Objections

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Categories: [redacted]

Dear Carlo Grilli

I am writing to object to the recently published Musselburgh Flood Protection Scheme.

I have been following this scheme closely since its inception for a number of reasons. I myself are from [redacted] in the [redacted] and we are currently undergoing a scheme, I have a direct interest in the land as I also visit Musselburgh and East Lothian frequently as we have a second home on the East coast. Lastly, I have a Diploma in [redacted] from the [redacted] and have had a keen interest in Environmental Conservation and Restoration for over 25 years.

I object to the published scheme because:

OBJECTION 1
I believe this will have a harmful and detrimental impact on the tourism industry both within and around the surrounding areas of Musselburgh. This town and area benefit greatly from the financial resources this industry brings to the area and provides a wide variety of directly and indirectly related job roles. Particularly as Musselburgh is so geographically close to our capital City of Edinburgh, this generation of income cannot be underestimated.

OBJECTION 2
Musselburgh and East Lothian has benefitted greatly from recent regeneration in terms of residential and commercial property building as commuter areas for Edinburgh and the Central Belt expands. The works associated with this scheme will seriously undermine the viability of further regeneration as individuals reject the area and consider alternatives to the North, South or West aspects of Scotland with less disruption and flux. Particularly as any transport links will almost certainly be impacted upon.

OBJECTION 3
I have grave concerns over a whole host of environmental considerations which will be terminally impacted by the scheme. There are too many to mention, however environmental areas such as ancient woodlands which will be lost forever and are home to many species of flora and fauna or plant and animal life. Planting new trees will never be able to replace this ecosystem in its exact form and some species may be lost forever in the area. Grassland and coastal areas and including sand dunes exemplify the same concerns. As sea levels rise and coastal erosion increases, it is imperative that established plant life is protected as this is the best defence against erosion. This has recently been referenced in areas of Brazil with erosion and gullies causing serious concern being seen due to deforestation and the erection of concrete structures and land coverings. It is the composition of the root structures of plants which help support soil stability and consequently also provide natural water storage and drainage. I am also concerned about native colonies of bats and woodland animals such as badgers which inhabit the woodland areas earmarked for removal. Also, the implications for sea wildlife such as seal colonies particularly in the breeding and seal pup season concern me greatly. Once any damage is done to any of the aforementioned, this will be devastating and possibly even irreversible.
OBJECTION 4
I am also objecting to the scheme due to cost implications in times of severe austerity impacting statutory public services across Scotland such as Health, Education and Social and Emergency Services. The scheme

comes at a cost which is quite exceptional, while many individuals face cuts to services which directly impact upon their lives, I do not believe that spending this amount of money on this scheme is morally correct.

OBJECTION 5

I do not believe that there is substantial oversight of both the planning and implementation of this scheme and others like it across Scotland and wider afield. There appears to be no evidence of genuine, unbiased and independent assessment of various aspects of the schemes and I believe that key stakeholders hold the inaccurate view they have full and unmitigated autonomy.

Please acknowledge receipt of my letter of objection in writing. Please advise me of next steps, and timescales. I would like communication to be via *email to* [redacted]

Yours Faithfully

[redacted]

From: [redacted]
Sent: 23 April 2024 15:09
To: Musselburgh Flood Protection Objections
Subject: (0377) Re: Objection to Musselburgh Flood Prevention Scheme
Attachments: Musselburgh Flood Protection Scheme objection.docx

Importance: High

Categories: [redacted]

You don't often get email from [redacted]. Learn why this is important

Separate word document version of my objections.
Thank you, Kind regards,
[redacted]

[redacted]

From: Musselburgh Flood Protection Objections <mfpsobjections@eastlothian.gov.uk>
Sent: Tuesday, April 23, 2024 3:02 PM
To: [redacted]
Subject: Automatic reply: Objection to Musselburgh Flood Prevention Scheme

Hello,

Thank you for your engagement with the Musselburgh Flood Protection Scheme. This email is to confirm that your correspondence has been received.

Under the Flood Risk Management (Scotland) Act 2009, the notification of the Musselburgh Flood Protection Scheme commences on Thursday 21st March 2024. Objections can be made about the proposed scheme until Wednesday 24th April 2024.

All e-mails received to this inbox will remain unread until the end of this objection period.

Kind Regards,

East Lothian Council

****
****

[redacted]

23 April 2024

Carlo Grilli
Service Manager – Governance Legal Services
East Lothian Council
John Muir House
Haddington
EH41 3HA

mfpsobjections@eastlothian.gov.uk

Dear Carlo Grilli

I am writing to object to the recently published Musselburgh Flood Protection Scheme.

I have been following this scheme closely since its inception for a number of reasons. I myself are from [redacted] in the [redacted] [redacted] and we are currently undergoing a scheme, I have a direct interest in the land as I also visit Musselburgh and East Lothian frequently as we have a second home on the East coast. Lastly, I have a Diploma in [redacted] and have had a keen interest in Environmental Conservation and Restoration for over 25 years.

I object to the published scheme because:

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OBJECTION 4
I am also objecting to the scheme due to cost implications in times of severe austerity impacting statutory public services across Scotland such as Health, Education and Social and Emergency Services. The scheme comes at a cost which is quite exceptional, while many individuals face cuts to services which directly impact upon their lives, I do not believe that spending this amount of money on this scheme is morally correct.

OBJECTION 5
I do not believe that there is substantial oversight of both the planning and implementation of this scheme and others like it across Scotland and wider afield. There appears to be no evidence of genuine, unbiased and independent assessment of various aspects of the schemes and I believe that key stakeholders hold the inaccurate view they have full and unmitigated autonomy.

Please acknowledge receipt of my letter of objection in writing. Please advise me of next steps, and timescales. I would like communication to be via *email to* [redacted]

Yours Faithfully

[redacted]

Subject: (0378) Submission to Musselburgh Flood Protection Scheme consultation
Sent: 23/04/2024, 15:11:17
From: [redacted]
To: Musselburgh Flood Protection Objections

Follow Up Flag: Follow up
Flag Status: Completed

Dear Mr Grilli,

I am writing to object to the proposed Musselburgh Flood Protection Scheme 2024 (the Scheme).

My name and address are:
[redacted]

Coastal defences and Dynamic Coast erosion report

I object to the current proposals from the mouth of the Esk to the Brunstane Burn (work sections 6-16) on the grounds that the expert report commissioned by ELC from Dynamic Coast, which was not available to Councillors when they voted on the Scheme, makes clear that there is a "wider and currently unaddressed future erosion risk… that may threaten the Scheme's proposed defences and other assets along the town's frontage". This report was clear that further action will certainly be required in order to protect the new defences from erosion, but the Proposed Scheme gives no indication of what this might be, including costs, feasibility, or environmental impact over the long term. Rather than proceed with the Scheme as planned, which did not take this into account, our council and community should consider ways to address both flood risk and coastal erosion together.

Committing East Lothian Council to a particular line of defence for the next 100 years fails to provide the "managed, adaptive approach" that the Scottish Government advises must be taken in areas of coastal change and which the Scheme's own design statement claims to follow. It also puts unnecessary constraints on the Council's Coastal Change Adaptation Plan, which is being carried out this year, and which will now have to work around a fixed line of defence without consideration of alternatives, in contradiction to the guidance issued by the Scottish Government around these Plans.

The rate of erosion predicted by Dynamic Coast along the Musselburgh coastline contradicts the assumption that the defences will last for 100 years. The report's analysis of erosion on the proposed flood defences showed "direct impact is likely to occur relatively soon, most likely 2030-2040 but potentially earlier" (p.25). This undermines many key aspects of the case for the Scheme:

- The project fails to meet one of its initial stated environmental objectives: that "the scheme will consider the impacts of climate change" (EIA §4.1).
- It directly contradicts the statement in the Environmental Impact Assessment (§12.1) that Scheme assets "have an inherently low vulnerability to climatic factors and the likely variation in these due to climate change. Consequently, this aspect of the climate change assessment is not considered further in this chapter and the focus is on assessing GHG emissions and their potential impact on climate". Thus, this chapter, as applied to these sections of the proposal, is inadequate and cannot be considered to fulfil the legislative requirements.
- The estimates of benefit to cost ratio are now incorrect. Undermining of the proposed coastal defences here will incur much greater maintenance costs (and currently unaccounted for emissions) and likely reduce the standard of protection.

Biodiversity

I object to the current proposals on the grounds that the loss of ancient woodland is unacceptable and the mitigations proposed do not make up for it.

The EIA states that 0.33 hectares of ancient woodland will have to be felled in construction of the scheme, while also highlighting that NatureScot has described such habitat as an 'important and irreplaceable national resource' (§7.42). Further efforts must be made to avoid this loss during the construction period, in particular, at Pinkie Playing Fields where the ancient woodland is used for forest school and otherwise available to school pupils for their wellbeing and education.

I object to the current proposals on the grounds that the biodiversity enhancements are not strong enough and further commitments are needed, e.g. catchment biodiversity improvements and consideration given to installation of a rock ramp for Eskmills Weir. The biodiversity enhancements, as required by NPF4, should be far more ambitious and should include some 'traditional' Natural Flood Management actions such as tree-planting, pond creation or leaky dam structures in the catchment (these actions being included under biodiversity enhancement in recognition of the fact that their flood reduction impact is uncertain and therefore cannot be the main justification for their inclusion).

Further biodiversity enhancements relating to the River Restoration project should be included within the town of Musselburgh, including work to improve the water quality of the Mill Lade and Pinkie Burn (both assessed as limited ecological value in the EIA, Ch7), and the installation of a 'rock ramp' for fish passage at Eskmills Weir, as recommended by Forth Rivers Trust as 'having many benefits over other types of fish passage'.

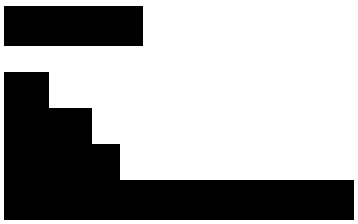
Concerns over Contribution to Climate Change

I object to the overall carbon impact of the Scheme as it stands because the proposed mitigations in the Environmental Impact Assessment (Ch 12) are all described as 'potential' actions, or actions that 'could' be explored through the proposed Carbon Management Plan. While the EIA gives a range of positive suggestions, without a robust means of enforcing them there is a significant risk that they will be seen as optional.

At a minimum, adherence to the CMP must form part of the procurement process for all contractors. Further, the sustainability credentials of contractors should carry some weight through that procurement - for instance, a company with a large proportion of electric vehicles in their fleet might score more highly than one with all-petrol vehicles (this would be far more effective than simply training drivers in fuel-efficient driving techniques).

Until these suggested secondary mitigations are mandatory, the overall effect on Global Atmosphere – Climate from the Scheme must still be considered Moderate Adverse- Significant, and I object to it on that basis.

Yours sincerely,



Subject: (0379) Construction outside our house at [redacted]
Sent: 23/04/2024, 15:17:18
From: [redacted]
To: Musselburgh Flood Protection Objections

Follow Up Flag: Follow up
Flag Status: Completed

[You don't often get email from [redacted]. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Dear Mr Grilli

[redacted] alerted us to possible problems for our property arising from the proposed construction of the flood wall [redacted]. Section A doesn't have a concrete foot like Section B. He says this will shorten the life of the wall. However he says maybe there are piles to be driven in that are not detailed in the drawing - but if there are piles, he believes these too could damage our wall, which is in in fact the outside wall of our house- which would be disastrous!

On another point I think there's a gate (shown in orange?) to the beach [redacted]. As you will know the level of the sand has been up and down and up and down by nearly a metre in the last few years. [redacted]

PLase confirm receipt.

Yours sincerely
[redacted]

Subject: (0380) Submission to Musselburgh Flood Protection Scheme consultation
Sent: 23/04/2024, 15:22:33
From: [redacted]
To: Musselburgh Flood Protection Objections

Follow Up Flag: Follow up
Flag Status: Completed

Dear Mr Grilli,

I am writing to object to the proposed Musselburgh Flood Protection Scheme 2024 (the Scheme).

My name and address are:

[redacted]

We live in the flood plain at the intersections of the [redacted], and are affected very directly by the increasing risk of flooding, including most immediately in terms of the rapidly rising costs of home insurance (now sitting at over £2000 p.a.). I am keen to ensure the Council invests in a long-term, rounded approach to protecting the coastal community, taking into account erosion as well as rising waters. Without this we risk simply pushing the problem a few years down the line and wasting huge amounts of money.

With reference to the improving the attention paid to biodiversity, below: in my professional life I work strategically with public and [redacted] across England to protect health and wellbeing through creativity and access to nature. There is significant evidence of the critical importance of being in nature for adults and children's health and wellbeing. This is also one of the best options we have available to us for tackling the social determinants of health (see for example https://www.instituteofhealthequity.org/resources-reports/health-inequalities-lives-cut-short). At the same time we are witnessing a steep, ongoing rise in diagnosed mental health issues in children and young people. Improving biodiversity (and retaining access to the woodland) will be an investment on the Council's part not just into halting environmental degradation but also into preventative health care.

In particular:

Coastal defences and Dynamic Coast erosion report

I object to the current proposals from the mouth of the Esk to the Brunstane Burn (work sections 6-16) on the grounds that the expert report commissioned by ELC from Dynamic Coast, which was not available to Councillors when they voted on the Scheme, makes clear that there is a "wider and currently unaddressed future erosion risk… that may threaten the Scheme's proposed defences and other assets along the town's frontage". This report was clear that further action will certainly be required in order to protect the new defences from erosion, but the Proposed Scheme gives no indication of what this might be, including costs, feasibility, or environmental impact over the long term. Rather than proceed with the Scheme as planned, which did not take this into account, our council and community should consider ways to address both flood risk and coastal erosion together.

Committing East Lothian Council to a particular line of defence for the next 100 years fails to provide the "managed, adaptive approach" that the Scottish Government advises must be taken in areas of coastal change and which the Scheme's own design statement claims to follow. It also puts unnecessary constraints on the Council's Coastal Change Adaptation Plan, which is being carried out this year, and which will now have to work around a fixed line of defence without consideration of alternatives, in contradiction to the guidance issued by the Scottish Government around these Plans.

The rate of erosion predicted by Dynamic Coast along the Musselburgh coastline contradicts the assumption that the defences will last for 100 years. The report's analysis of erosion on the proposed flood defences showed "direct impact is likely to occur relatively soon, most likely 2030-2040 but potentially earlier" (p.25). This undermines many key aspects of the case for the Scheme:

• The project fails to meet one of its initial stated environmental objectives: that "the scheme will consider the impacts of climate change" (EIA §4.1).
• It directly contradicts the statement in the Environmental Impact Assessment (§12.1) that Scheme assets "have an inherently low

vulnerability to climatic factors and the likely variation in these due to climate change. Consequently, this aspect of the climate change assessment is not considered further in this chapter and the focus is on assessing GHG emissions and their potential impact on climate". Thus, this chapter, as applied to these sections of the proposal, is inadequate and cannot be considered to fulfil the legislative requirements.
• The estimates of benefit to cost ratio are now incorrect. Undermining of the proposed coastal defences here will incur much greater maintenance costs (and currently unaccounted for emissions) and likely reduce the standard of protection.

Biodiversity

I object to the current proposals on the grounds that the loss of ancient woodland is unacceptable and the mitigations proposed do not make up for it.

The EIA states that 0.33 hectares of ancient woodland will have to be felled in construction of the scheme, while also highlighting that NatureScot has described such habitat as an 'important and irreplaceable national resource' (§7.42). Further efforts must be made to avoid this loss during the construction period, in particular, at Pinkie Playing Fields where the ancient woodland is used for forest school and otherwise available to school pupils for their wellbeing and education.

I object to the current proposals on the grounds that the biodiversity enhancements are not strong enough and further commitments are needed, e.g. catchment biodiversity improvements and consideration given to installation of a rock ramp for Eskmills Weir. The biodiversity enhancements, as required by NPF4, should be far more ambitious and should include some 'traditional' Natural Flood Management actions such as tree-planting, pond creation or leaky dam structures in the catchment (these actions being included under biodiversity enhancement in recognition of the fact that their flood reduction impact is uncertain and therefore cannot be the main justification for their inclusion).

Further biodiversity enhancements relating to the River Restoration project should be included within the town of Musselburgh, including work to improve the water quality of the Mill Lade and Pinkie Burn (both assessed as limited ecological value in the EIA, Ch7), and the installation of a 'rock ramp' for fish passage at Eskmills Weir, as recommended by Forth Rivers Trust as 'having many benefits over other types of fish passage'.
Concerns over Contribution to Climate Change

I object to the overall carbon impact of the Scheme as it stands because the proposed mitigations in the Environmental Impact Assessment (Ch 12) are all described as 'potential' actions, or actions that 'could' be explored through the proposed Carbon Management Plan. While the EIA gives a range of positive suggestions, without a robust means of enforcing them there is a significant risk that they will be seen as optional.

At a minimum, adherence to the CMP must form part of the procurement process for all contractors. Further, the sustainability credentials of contractors should carry some weight through that procurement - for instance, a company with a large proportion of electric vehicles in their fleet might score more highly than one with all-petrol vehicles (this would be far more effective than simply training drivers in fuel-efficient driving techniques).

Until these suggested secondary mitigations are mandatory, the overall effect on Global Atmosphere – Climate from the Scheme must still be considered Moderate Adverse- Significant, and I object to it on that basis.

in appreciation of your time and attention

Sincerely

Subject: (0381) Submission to Musselburgh Flood Protection Scheme consultation
Sent: 23/04/2024, 15:42:25
From: [redacted]
To: Musselburgh Flood Protection Objections

Follow Up Flag: Follow up
Flag Status: Completed

Dear Mr Grilli,

I am writing to object to the proposed Musselburgh Flood Protection Scheme 2024 (the Scheme).

My name and address are:

[redacted]

Coastal defences and Dynamic Coast erosion report

I object to the current proposals from the mouth of the Esk to the Brunstane Burn (work sections 6-16) on the grounds that the expert report commissioned by ELC from Dynamic Coast, which was not available to Councillors when they voted on the Scheme, makes clear that there is a "wider and currently unaddressed future erosion risk… that may threaten the Scheme's proposed defences and other assets along the town's frontage". This report was clear that further action will certainly be required in order to protect the new defences from erosion, but the Proposed Scheme gives no indication of what this might be, including costs, feasibility, or environmental impact over the long term. Rather than proceed with the Scheme as planned, which did not take this into account, our council and community should consider ways to address both flood risk and coastal erosion together.

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Until these suggested secondary mitigations are mandatory, the overall effect on Global Atmosphere – Climate from the Scheme must still be considered Moderate Adverse- Significant, and I object to it on that basis.

Yours sincerely,

Subject: (0382 NO ADDRESS) RE: Fisherrow Links
Sent: 23/04/2024, 15:47:15
From: Grilli, Carlo
To: Musselburgh Flood Protection Objections
Cc: [redacted]

Follow Up Flag: Follow up
Flag Status: Completed

Categories: NO ADDRESS

Thank you for your engagement with the Musselburgh Flood Protection Scheme. This email is to confirm that your correspondence has been received and has now been forwarded to the objection inbox.
Under the Flood Risk Management (Scotland) Act 2009, the notification of the Musselburgh Flood Protection Scheme commences on Thursday 21st March 2024. Objections can be made about the proposed scheme until Wednesday 24th April 2024.
All correspondence received in connection with the proposed scheme will remain unread until the end of this objection period.
Kind Regards,
East Lothian Council

From: [redacted]
Sent: Sunday, April 21, 2024 5:05 PM
To: [redacted]
Subject: Fisherrow Links

You don't often get email from [redacted]. Learn why this is important

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

To whom it may concern.

I am writing to strongly object to the proposed plans for Fisherrow Links. I have lived in [redacted] for over [redacted] happy years. I have never seen in all that time any suggestion of flooding...NOT ONE BIT! the links are a lovely open space much used by the folks of Musselburgh and should be left as they are. We do not need a big wall to save us from the sea, we do not need the possibility of turning links into a work station while this is going on, and turning our street into a busy thoroughfare of lorries and work vehicles.

On a personal level, my family have a memorial bench [redacted] We meet often at bench and enjoy the view over the water, another thing that will be ruined by a stupid wall! I hope sense prevails and we do not waste a lot of council money on this unnecessary nonsense. The money could be put to a much more needed use in maintaining the Brunton Hall...another much used facility in Musselburgh.

Yours faithfully,

[redacted]

[redacted]

[redacted]

Wednesday, 17 April 2024

To;
Carlo Grilli
Service Manager – Governance
Legal Services
East Lothian Council
John Muir House
Haddington
EH41 3HA
[redacted]

Dear Mr Grilli,
I am writing to object to the recently published Musselburgh Flood Protection Scheme.
I'm interested in the scheme as it will have a huge effect on the beautiful environment that I enjoy as I walk all over Musselburgh exercising my dog. I am often walking along the Esk river bank on my way shopping or on errands that take me into the centre of Musselburgh. The beauty of Musselburgh is of great interest to me. As a property owner I'm also concerned that the flood scheme if not well designed will adversely affect property prices in the whole area. I'm also a tax payer and concerned that my hard earned money is put to the best use and not wasted. I'm also concerned that most of the favourite places I go will be 'out of action' for some time.

I object to the published scheme because:

- The scheme seems very 'hard' engineering orientated with little priority given to the visual and human aspects of how users might experience using the environment. Whilst flood protection is required, it is going to be an intervention that will have long lasting and substantial changes to the town. As such it is essential that the scheme be carefully considered from the point of view of the user. This I believe has not been prioritised despite, apparently, the involvement of landscape designers and environmental impact assessors. It is hard not to form the view that these professionals have been side-lined and used only to justify a heavily engineering based solution. We need to look at history and how people such as the Dutch approach similar problems as they seem to be able to consider innovative solutions that work on both a human and engineering level.
- I discuss various places later on where the engineering imperatives seem to have been overly prioritised with little attention paid to the experiential aspects of the user.

- I note that NFM based solutions are being excluded. There is little evidence that NFM solutions have been considered as a serious element of the scheme design as it exists at present. The impression gained is that this is seen as ‘outwith our scope’ which in my experience as a construction industry design professional means outwith our silo. In addition the science that the scheme is based on have not been fully available to the public to reassure ourselves. I note that in government guidance is in favour of NFM where appropriate. The engineers appointed to design the project have also been allowed to write the Environmental Impact Assessment (EIA). They carried out an options appraisal that ruled out all alternatives to the current scheme, without those options being made available for public scrutiny or debate. In my opinion this looks like they had already made their minds up about a solution and did not wish to consider that there may be other ways of achieving the effect required. Nature is complicated and all too often we try to impose a ‘hard’ solution where a more nuanced approach may be what is required.
- The scheme will require considerable replanting especially of trees, has consideration be made to speeding up the process of growth by having a tree nursery, perhaps in the proposed wildlife area at the weir to bring on smaller trees such that they are larger when planted out?
- In general a seepage area of up to 5m below any walls are proposed. Since there is no seepage facility at present why do we need such a potentially invasive and presumably expensive thing now?
- We attended a talk about a district heating system and that the flood scheme offered a good opportunity to integrate infrastructure for both schemes. Does the scheme allow for this opportunity as it would seem a terrible waste if this opportunity is missed?
- UK climate projections. The outline design statement states that it is based on the scenarios 1-4, 4 being the most severe. This does appear prudent, however the time scale is far into the future and presumably the full scheme will not be required for some time. As has been discussed elsewhere it would appear sensible to put in place reduced wall heights to reduce the impact of the measures, this would also allow time for people to get used to the changes and allow for unforeseen effects to be considered ‘on site’.
- Inveresk Estate. Work section 29. The proposal is for a flood wall alongside the footpath. This is an unnecessarily ‘hard’ solution. The wall is to protect the gardens rather than the houses in the Inveresk Estate as I believe they are on elevated ground as the flood risk was recognised at planning stage. Other areas on the flood plain, Inveresk Lodge gardens and the grazing field next to it have holes cut into the walls to allow the flood waters to rise and recede as required. This option should be explored since the protection is for ground, not houses as they are on plinths. If protection is deemed necessary why a wall? I understand that a wall up the lane is required, however where possible an embankment would be visually preferred and is presumably much cheaper. An embankment instead of the wall would be more natural, better for wildlife, quicker to build and would probably be a better long term solution as it would be very unlikely to suffer catastrophic failure in the way a wall might fail. A wall will be a graffiti magnet unless heavily textured, adding considerably to the cost as at present the finish is listed as ‘stone’. The open feel of this area will be greatly compromised by building a wall effectively cutting off a large part of this area.

- Builders Yard and Station Road. Work Section 20. 8.34m AOD as a flood height seems absurdly high. The last time the river was very high, the footpath above the weir was submerged, and the river on the downstream side of the weir was nowhere near even the bottom of the wall. The wall continues along until reaching the footbridge, thus cutting off access to the industrial estate and requiring the removal of all the trees along the route. This is a very ugly solution. Is such a high wall really necessary? The scheme does not say much about natural landscape replacement.
- Eskmills Business Park. Work section 21. The river is cut off from the path users. Surely it does not need to be so high, where is the science to back this up? Also, generally there is a 5m wide path, whilst I understand the transport people think it's a good idea, it does not make sense to have it all this width, especially as the path is not particularly heavily used and it requires a lot of mature trees to be cut down.
- Olive Bank Road. Work area 22 and work area1. Work area 22, if the scheme replaces the existing wall then why not simply fill in the gaps in the existing wall? It is doing a good job?. Work area1, are you sure the wall is required at all just now, can the height be reduced to the minimum that is required and added to late if required.
- Roman Bridge to Rennie Bridge work area 2 and 23. Work area 2, why does the wall run along between the road and the walkway? This means one cannot cross the road to get to the river. Is it not possible to put a stepped wall on the river side of the walkway that would allow access? Or at least to rethink. Work area 23, this whole area is unnecessary. There is already an existing wide footpath. If any height of wall is required, would it not be much lower if built at the existing roadside? Or by raising the existing pathway. Again, having a 5m wide path might be desirable but forcing it everywhere seems counterproductive. This whole area has some of the most expensive and invasive works, with little purpose or improvement, just more concrete. It is important to preserve to open park like quality to this area and there is plenty of room for a widened path next to the road where the street lighting will enhance night time riding. A simple curved link similar to what exists could be provided to the underpass.
- Rennie Bridge to Shorthope street footbridge. Work area 3 and 24. Work area 3. Work area 24, the wall proposed on the river side is ugly, moving the wall to the side of Eskside east access road would preserve the open feel of the riverside. Money could be saved by leaving the riverbank as is. In the event of a flood parts of the active travel route i.e. the underpass might get cut off. However, Eskside east access road would be protected and there are steps up to the high street that could be modified for cycles. This would enable the whole area on the south bank from the Roman bridge to the Shorthope Bridge to remain substantially as is in appearance. Also, is it really necessary to remove so many trees at Shorthope Bridge?
- Shorthope Bridge to Electric Bridge. Work areas 4 and 25. Work area 25, the wall is shown next to the river but blocks the view of the river. Could the wall height be reduced? Also the ground could be raised to allow a view over the wall. The proposal shows both the access road and a 5m wide active travel route, given the road is very lightly used could that not be used for the active travel, with priority for non-vehicular users if required. This would save money and help preserve a green natural feel.

- Electric Bridge to mouth of Esk. Work areas 5 and 26. Work area 5, having a wall along from the electric bridge to the mouth of the Esk is very invasive and visually intrusive. Bringing the wall back from the river towards the playing field wall and continuing along nearer the pumping station would help preserve the open feeling and keep views of the river, steps or a ramp could be provided at regular intervals to allow unimpeded access to the riverside and beach area in normal circumstances. Another option could be to have a flood gate at the electric bridge end and no wall along the rest of the riverside.
- Mouth of Esk to Mountjoy Terrace. Work area 6. The embankment with the active travel route seems to be putting a barrier between the sea and further in towards the pumping station which has the effect of cutting off the grassy area. The bridge location appears arbitrary and creates a visual barrier, changing the whole open character of the river mouth. If the embankment was moved towards the pumping station and the bridge location moved upstream the openness of the area could be maintained better albeit an embankment ‘connection would be required between the bridge and the embankment, could this connection be in the form of a raised boardwalk type construction which would keep the area open and the view and visual connection to the sea maintained. At some point the embankment would need to curve towards the sea in order to provide protection towards Fisherrow. There do not appear to be any measures taken offshore to reduce the power of the waves, has this sort of measure been considered?
- Black Sands car park. Work area 11. This area shows the sea wall linking up with Murdock’s Green, I’m assuming this area is providing an active travel facility, if not perhaps it should as it is a good opportunity to do so.

Please acknowledge receipt of my letter of objection, in writing. Please advise me of next steps, and timescales.

Yours Faithfully

[redacted]

Subject: (0384) FW: Musselburgh Flood Protection scheme (MFPS)
Sent: 23/04/2024, 15:50:50
From: Grilli, Carlo
To: Musselburgh Flood Protection Objections
Cc: [redacted]

Follow Up Flag: Follow up
Flag Status: Completed

Thank you for your engagement with the Musselburgh Flood Protection Scheme. This email is to confirm that your correspondence has been received and has now been forwarded to the objection inbox.
Under the Flood Risk Management (Scotland) Act 2009, the notification of the Musselburgh Flood Protection Scheme commences on Thursday 21st March 2024. Objections can be made about the proposed scheme until Wednesday 24th April 2024.
All correspondence received in connection with the proposed scheme will remain unread until the end of this objection period.
Kind Regards,
East Lothian Council

From: [redacted]
Sent: Friday, April 19, 2024 7:52 PM
To: Grilli, Carlo [redacted]
Subject: Musselburgh Flood Protection scheme (MFPS)

[redacted]
Email [redacted]
Date 19th April 2024
FAO Carlo Grilli
Service Manager -- Governance
Legal Services
East Lothian Council
John Muir House
Haddington EH41 3HA
[redacted]

We are writing to object to the recently published Musselburgh Flood Protection Scheme (MFPS).
We live at [redacted].
With reference to MFPS Work Scheme 13, the proposed installation and design of Murdoch's Green its viewed that a flood protection wall will be built replacing the existing wall.
The new flood protection wall will have a beach ramp pedestrian opening for access to he beach.
We strongly object to this because of the following reasons.

1) This pedestrian opening at ground zero level will only be 12 yards from the main Edinburgh Road approach highway into Musselburgh and East Lothian County. This road is a vital use for the towns county bus routes, emergency services and traffic from and to Edinburgh.
Clearly this is a contradiction of the objective of the MFPS. If there was a flood at this area it would cause havoc and stop all traffic egress and access into the town and county.

2) The Murdoch,s Green stretch of Edinburgh Road narrows from both ends of this road.
It has traffic restriction markings on the road. It locates two bus stops a traffic island and it has four properties requiring vehicular access and egress from this road. If there is a flood wall opening for pedestrians to the beach this would encourage cars to park on this already narrow road and cause traffic problems! This has previously been attempted before for a wall opening and the same objection were listened to and not carried out. Common sense prevailed as there is adequate nominated car parking at the back sands for access to the beach.
We object to this design and proposal and have the view that this is a hard engineered approach with no consideration to the environment and community.

3) Its noted as part of the construction work for the MFPS at Murdoch,s Green . The intention is to clear part of the well established gardened area to facilitate a hard standing for the storage and parking of construction

equipment to be used.
We clearly object to the proposal, as this is the gardened area entrance show piece to the gateway for the town of Musselburgh and East Lothian County.
Have the designers and council considered the use of already vehicle roads for the coastal works.
The hard standings as part of the back sands car park also a golden opportunity to develop extending the car park area.
Also with reference to MFPS work section 14 the of Edinburgh Road beach end, where it bends at property [redacted] along the sea front.
Again another golden opportunity to establish a permanent hard standing and facilitate the parking of construction equipment.

Please acknowledge receipt of our letter of objection, in writing.
Please advise us of next steps and timescales.

Yours Faithfully,
[redacted]

Subject: (0385) FW: proposed Musselburgh Flood Protection Scheme
Sent: 23/04/2024, 16:02:55
From: Grilli, Carlo
To: Musselburgh Flood Protection Objections

Follow Up Flag: Follow up
Flag Status: Completed

I cannot recall if this was forwarded earlier so including for completeness

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From: [redacted]
Sent: Thursday, April 11, 2024 11:09 AM
To: Grilli, Carlo [redacted]
Subject: proposed Musselburgh Flood Protection Scheme

[redacted]

[redacted]

[redacted]

[redacted]

11th April 2024

[redacted]

Carlo Grilli
Service Manager – Governance
Legal Services
East Lothian Council
John Muir House
Haddington
EH41 3HA
[redacted]

Dear Carlo,

I am writing to object to the recently published Musselburgh Flood Protection Scheme. As a homeowner in [redacted], the scheme would impact directly on us causing considerable disruption to our garden, not to mention the aesthetic impact through the cutting down of trees along the River Esk. At a meeting with Conor Price on [redacted] we were assured that, as a homeowner whose garden would be impacted in a major way by the scheme, we could effectively stop the scheme by refusing to allow permission to knock down our wall.

I object to the published scheme because I consider that exploration of more natural defence mechanisms, such as dredging of the river and unblocking of the many blocked drains all over Musselburgh would be more effective. The current scheme should at least be paused while these alternatives are explored. The cost of the proposed scheme seems hugely disproportionate, and this money could be far better spent on improving Musselburgh's access to health care for example (anyone who has tried ringing Riverside Medical practice to

get an appointment would vouch for this). The disruption not only to myself as an impacted homeowner, but also to the whole town over an extended period, is not needed at the current time. My family and I are amongst the many Musselburgh residents that make regular use of the coastline and river banks in and around the town for walking and cycling, and we fear that the construction of concrete walls in these areas will detract immeasurably from the town.

There has been no flooding of our property due to rising river levels in the 14 years that we have lived in this property, and we do not consider the risk of this happening any time soon to be significant.

We would therefore urge the current Flood Protection Scheme to be paused.

Yours Faithfully,

[redacted]

[redacted]

Carlo Grilli [redacted]

Service Manager – Governance [redacted]

Legal Services [redacted]

East Lothian Council [redacted]

John Muir House

Haddington

EH41 3HA

23 April 2024

Dear Mr. Grilli,

I am writing to object to the recently published Musselburgh Flood Protection Scheme. I

I have a very strong interest in the scheme, as I frequently visit Musselburgh , in particular the mouth of the River Esk and along the sea wall towards Levenhall Links. I am (i)a birdwatcher, (ii) a Volunteer with the [redacted] and (iii) a volunteer surveyor with the [redacted] and as such I am extremely concerned that the Council's scheme fails to properly protect and certainly does not enhance the area's internationally important birdlife and biodiversity.

I object because the Environmental Impact Assessment (EIA) Report that East Lothian Council has commissioned does not meet the necessary requirements set out in EIA guidance and does not allow East Lothian Council to fulfil its biodiversity duties. Specifically:

Inadequacy of the EIA Report's Ornithology Baseline

The results presented in the EIA Report from surveys of shoreline and coastal birds (the 'through the tide counts') are insufficiently detailed to adequately assess the impacts of the Scheme on these species. This failure is especially important because the Scheme is adjacent to, or in places actually within, the Firth of Forth Special Protection Area (SPA), the Firth of Forth Ramsar Site, the Firth of Forth Site of Special Scientific Interest (SSSI), and the Outer Firth and the St. Andrews Bay Complex SPA. These are internationally and nationally important designated sites for birds, and any assessment of impacts on these designations require must be informed by comprehensive robust and appropriately detailed baseline data. The EIA Report does not present such data.

It is therefore essential that baseline bird survey data are properly presented, specifically that the distribution and abundance of qualifying features of the SSSI, SPAs and Ramsar site at least are mapped to species level and their abundance shown for each survey area (notably through the tide count survey areas), along with the key areas for roosting and foraging of those species. Without this information, the EIA lacks the necessary detail to enable consultees to judge whether or not the applicant's assessment of impacts from the Scheme is correct. Consultees cannot therefore also judge whether proposed mitigation measures are adequate, or whether the identification of residual impacts on birds can be relied upon. For all these reasons, the baseline survey data in the EIA in its current form is not fit for purpose. It needs to be rectified by the submission of Further Environmental Information, and until that is carried out, I object to the Scheme on grounds of inadequate baseline bird data being provided in the EIA Report. As

additional bird surveys are still being undertaken, the more detailed results requested can be published at the same time as these additional data (but all to the appropriate level of detail).

On top of this failure to present survey results to the required level of detail for such a sensitive area and for such important species, the desk study component of baseline data collection has also been inadequate. To accord with EIA guidance[1], baseline bird data should comprise both survey results and relevant pre-existing data on bird species present, their national and local population trends, and insights into their relevant behaviour. The Firth of Forth has been the subject of intense ornithological study spanning several decades[2], and it is reasonable to expect that this body of data would have been drawn upon for the EIA Report, not least given the sensitivity of the area and the need to design appropriate and effective mitigation measures for construction impacts and impacts over the 100 year operational life of the Scheme. The desk study data included in the EIA also fails to meet the requests from key stakeholders. Notably, for example, the East Lothian Biodiversity Office who requested in their Scoping Report (see ELC on 28th November 2023, EIA Appendix C3.2) that '*The field surveys should be informed by a data search from … useful data (that) may be available from sources including the East Lothian Council Ranger Service, British Trust for Ornithology and Scottish Ornithologists' Club'*.

Starting with the Scottish Ornithologists' Club, the EIA fails to incorporate into its ornithology baseline any of the comprehensive pre-existing bird data that exists for the Scheme area, collected over several years by highly experienced local ornithologists, many with decades of expertise in the area's bird life. It would be expected, at the very least, that given EIA guidance[3] and to comply with the request from East Lothian Council's own Biodiversity officer that the EIA authors would have submitted a data request to the Local Bird Recorder of the Lothian Branch of the Scottish Ornithologists' Club (SOC) to obtain relevant bird records for the area impacted by the Scheme. This was not the case, and therefore the EIA ornithology baseline suffers by not having the detailed insights into species presence, abundance, distribution and behavioural patterns to adequately inform its assessment (including of cumulative impacts), mitigation design and proposals for enhancement. This is particularly the case for the assessments of impacts from the Scheme's construction compounds, the seawall improvement works, and the two sections of the Musselburgh Active Travel Network (ATN).

Moving on to obtaining desk study data from the British Trust for Ornithology (BTO), this key organisation administers a number of bird recording schemes, including the Wetland Bird Survey (WeBS), which cover this area. It is EIA good practice, as part of gathering desk study data for developments in coastal areas, to obtain and present WeBS results, alongside survey data. Bird surveys commissioned for EIAs are inevitably restricted to relatively short-term sample surveys, comprising snapshots of bird activity. The WeBS scheme and its predecessor have been running for decades and provide important long-term insights into species composition and abundance of waders and wildfowl of key sites, and long-term population trends. In particular, for large designated sites like the Firth of Forth SSSI/SPA/Ramsar, WeBS data are also essential to place local bird populations (i.e. the birds present in the Scheme area) in their wider Firth of Forth context, so that impacts from the Scheme, and cumulatively with other projects, can be adequately assessed. Whilst it is noted that in Section 7.3.3 of the EIA it

[1] See the Environmental Impact Assessment Handbook: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment process in Scotland Version 5, April 2018. NatureScot and Historic Environment Scotland.

[2] E.g. Bryant, D. (1987) The Natural Environment of the Estuary and Firth of Forth. *Proceedings of the Royal Society of Edinburgh, Section B: Biological Sciences*, Volume 93 , Issue 3-4:, pp. 509 – 520 DOI: https://doi.org/10.1017/S0269727000006916

[3] For example, see C.6.3 and Box C. 6. Practice .1. in the reference cited in Footnote 1.

states that the desk based assessment included data responses from organisations including the BTO, detailed WeBS data are not provided. The reference to WeBS data is limited to total species counts (in the EIA Section 7.5.6.1 'Desk-study and preliminary ecological appraisal'). This states:-

'Data obtained during the desk-based assessment identified the potential presence of the following protected species within the study area:

• *Wintering wetland birds: the BTO Wetland Bird Survey (WeBS) data for the five-year period from 2013/14 to 2017/18 identified a total of 70 species of wetland birds (which includes unidentified and hybrid species) within the Eastfield to Musselburgh WeBS sector. Of these 70 species, 55 were recorded in the winter months during this period. The five-year mean peak count of wetland birds within the Eastfield to Musselburgh WeBS sector is 4,878 individuals, with a five-year winter mean peak recorded as 5,259 individuals (see Appendix B7.4 for details)'.*

Instead of these agglomerated count figures, the EIA Report should provide the species-specific WeBS data. Furthermore, and contrary to the Chapter's statement that details of WeBS data are provided in Appendix B7.4, there are no details provided on the WeBS data for the area in that Appendix. What is required for the EIA (and HRA) is a map of the WeBS count sector to compare with the survey areas used for the through the tide counts, and for the WeBS data to be tabulated by species, comparing abundance figures from the survey work. Neither are presented in the Biodiversity Chapter or any of the published EIA Report Appendices.

Lastly in relation to the WeBS data, the totals that are presented are out of date, being '*from 2013/14 to 2017/18'*. The desk study for the EIA should have obtained the most recent five-year dataset available, i.e. up to the 2022/2023 non-breeding season, to help inform the assessment.

The inclusion of detailed WeBS data is common practice in EIAs (and HRAs) for coastal developments, in particular where developments overlap or are in close proximity to internationally important sites designated for their bird interests. As already highlighted, without these details, it is not possible to contextualise or corroborate the survey data provided by the applicant. This and the wider omissions in desk study data need to be rectified by the submission of Further Environmental Information, and until that is carried out, I object to the Scheme on grounds of inadequate baseline bird data being provided in the EIA Report.

Baseline Survey Accuracy

The bird survey data on which the Scheme's EIA Report depends appears to contain apparent anomalies, with some species noted that either have only very rarely ever been recorded locally and other species which may be mis-identified. The inclusion of these records undermines confidence in the reliability of bird (and other) survey work carried out for the EIA Report, and also in the rigour of the quality assurance processes that have been applied during the collection, processing and writing up of data used in the EIA Report. Specific examples include records of Stone-curlew, Water Pipit, Twite breeding, "flyover" Wood Warbler, Whimbrel in November, a Kittiwake flying up the river Esk (Appendix 7.4). Based on over 60 years of data held by the SOC, these records require verification. The almost daily coverage by experienced birdwatchers over the survey period also points to other anomalies, such as occasions when a large count of Velvet Scoters is reported in the EIA Report at a time when only a Common Scoter flock was present. Such questions on the reliability of the survey data are critical, given the conservation importance of qualifying features of the Firth of Forth SSSI, SPAs and Ramsar sites and Outer Forth and St Andrews Bay Complex SPA in such close proximity (and in some areas,

overlapping) with the Scheme. It also underscores the importance of consultation with bodies such as the SOC and BTO to ensure that pre-existing data for the Scheme area are obtained, adequately used to aid data validation and quality assurance, and properly integrated into baseline data.

One further concern over the baseline survey surveys is the validity of the 'through the tide counts' which coincided with the construction activity for the new lagoons between 2021 to June 2023. Given that the EIA Report acknowledges that construction traffic along the seawall will cause disturbance to birds (including qualifying features of the Firth of Forth SSSI, SPA and Ramsar site), evidently the results from these surveys were not representative whilst the lagoon construction was on-going. NatureScot guidance on bird surveys clearly highlights the principle that surveys should not take place where there is disturbance that may change the abundance, distribution or behaviour of birds within the survey area[4]. This precaution has not been followed therefore, and it further undermines the reliance that can be placed on a significant proportion of bird survey data used in the EIA Report.

It is understood however, that bird surveys are still being carried out, I therefore object until these un-impacted additional bird survey results are published as part of the submission of Further Environmental Information and HRA.

Failure to Identify and Assess Habitat Loss from the Scheme

The EIA Report attempts to identify and quantify the loss of habitats from the Scheme, to assess the significance of these losses, the mitigation that will be required and the resulting residual impacts and their significance.

However, it completely fails to identify the main habitat impact from the Scheme, namely the loss of shoreline and inter-tidal habitats over its 100-year operational life. These losses will occur as a direct result of the Scheme's construction of hard defence structures along the coast where these are currently absent or limited, through what is known as 'coastal squeeze'. This impact needs to be fully identified and assessed in the EIA Report, in particular the Scheme's proposed hybrid wall structures at Work Sections 6 and 7 (impacting 325m and 290m of coastline respectively) and its concrete walls along Work Sections 8 and 9 (impacting 393m and 132m of coastline respectively) (see Table 4-2 'Summary of Scheme by work section' in Section 4.4.1 Scheme Layout Overview, and Figures Appendix A41j to A41l in Appendix A of the EIA Report). The existence of this operational impact is not even mentioned in the EIA Report Biodiversity Chapter, let alone assessed, with only the most cursory mention given in 7.5.9.3 'General trends'. The EIA Report therefore does not meet its own commitment (in Section 3.6.2 'Future baseline') to complete '*Where appropriate, an appraisal of the future baseline without the Scheme … where feasible to allow for consideration of the operational impacts of the Scheme over its 100-year design-life'*.

This is of particular concern because these habitat losses will impact the qualifying features of the Firth of Forth SSSI, SPA or Ramsar Site (and the conservation objectives of the latter two designations).

The omission of this impact in the EIA Report must be rectified and the necessary modelling and full assessment of habitat loss from coastal squeeze be fully assessed and published as Further

[4] Although relating to bird surveys for wind farms, the importance of avoiding construction disturbance that may affect survey results is made clear in Section 2.1.1 and Box 1 in NatureScot (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. March 2017, Version 2.

Environmental Information. The assessment of these habitat losses on the integrity of the Firth of Forth SPA and Ramsar Site must also be included in the HRA, to inform the compensation that will be required, if should a derogation case be accepted.

Given how important this impact is, it is also worth re-stating the Council's published Scheme objectives (EIA Report Chapter 4, Section 4.1 and Table B4 in Appendix B4) that include the following Environmental Objectives:-

1. That the Scheme will achieve as a minimum a neutral impact on the environment.

2. To ensure that the Scheme includes appropriate catchment and natural flood management (NFM) measures.

3. To ensure that the Scheme considers the impact of climate change and includes appropriate provisions to mitigate any impact.

4. To ensure that the Scheme considers in full, and includes for any appropriate measures, to protect the Firth of Forth and its protected statuses.

Clearly, these objectives cannot be achieved if the Scheme's impacts are not adequately identified, assessed, and mitigated and if mitigation or enhancement proposals (such as those in EIA Report Table 7.7) are not considered in terms of resilience to sea level rise and climate change.

In addition to failing to include operational habitat loss, the habitat loss figures that are currently included for construction and operational impacts lack clarity and consistency across the Biodiversity Chapter and Appendices. For example, the extent of temporary lost habitat given in Section 7.6.2.1.1 'Firth of Forth SPA and Ramsar' is given as 'approximately 2.14 ha' but the habitat breakdown figures only add up to 1.711 ha. Similarly in Section 7.6.3.1.1 'Firth of Forth SPA and Ramsar', the permanent loss of habitat from the Firth of Forth SPA and Ramsar is given as 4.3 ha, but again the figures for the habitats lost amount to just over 1.46 ha. This lack of clarity and inconsistencies in the EIA Report make it difficult for consultees to clearly understand the scale or location of the Scheme's habitat impacts. It is important that these losses are clarified, including in the HRA prior to its finalisation, and if necessary, through the submission of Further Environmental Information.

<u>Failure to Appropriately Identify Plans and Projects to Consider for the Cumulative Impact Assessment</u>

Section 7.3.9 '*Cumulative effects'* of the EIA Report identifies that *'A review of developments in the local area as listed on the East Lothian and Midlothian Council planning portals was conducted. The assessment focused on developments of any size within the working areas and those over 1 ha in size up to 5 km from the working areas in Musselburgh and the reservoirs. In addition, Grangemouth Flood Protection Scheme (GFPS) was also considered as part of the assessment, as requested by NatureScot during consultation for GFPS'*.

The cumulative assessment needs to encompass developments that have significant potential to impact key ecological receptors. The potential for cumulative/in combination impacts is determined by impact pathways, not by arbitrary thresholds such as development size or distance from the Scheme (neither of which have any regulatory basis or reflect CIEEM

guidance)[5]. Movement of birds around the Firth of Forth SPA/Ramsar site have been relatively well studied, and this information should be referred to in order to help determine potential impact pathways, and thereby the plans and projects that need to be taken account of in the cumulative/in combination assessment. It is important that this impact/pathway/receptor approach is adopted in the HRA's 'in combination' assessment, if made available to consultees, otherwise through the submission of Further Environmental Information.

Repeated Lack of Evidence to Substantiate the Findings of the Impact Assessment

In order to comply with EIA guidance, it is essential that the assessment of impacts is supported by appropriate evidence. However, the EIA Report consistently fails to provide evidence to back up the assessments made on construction and operational impacts of the Scheme on birds.

The rare instance when evidence and published peer reviewed information is referenced in support of the assessment of impacts is for kingfisher (see section 7.6.2.3.4). Kingfisher is only a species of regional importance, yet the EIA Report's assessments of impacts on internationally or nationally important bird species are repeatedly made without any reference to peer reviewed or other evidence, or even to standard NatureScot guidance (for example, in relation to disturbance, Goodship and Furness 20226). A typical example of unsupported assertions is in Section 7.6.3.1.1 'Firth of Forth SPA and Ramsar', which states 'The remaining area to be lost within the SPA is comprised of habitat rarely used by qualifying species and therefore is considered unlikely to provide functional habitat'. There are no data presented to back up this assessment, since the EIA and its Appendices omit the necessary detail on the distribution and abundance of individual species.

This is a clear omission and weakness in the EIA Report, is contrary to guidance and good practice, and reduces the reliance that can be placed on the assessment or effectiveness of mitigation proposed. It also falls short of the robustness and detail of EIAs for other developments in the area[7]. Furthermore, East Lothian Council, who commissioned the EIA, has an actual duty to protect and enhance biodiversity. This duty cannot be adequately discharged without detailed baseline EIA (and HRA) bird data from which impacts on birds or other wildlife can be assessed, mitigation designed, and residual impacts identified.

It is also important to note that for the HRA the best available scientific evidence must be used, and the Council, given its Scheme objectives and biodiversity duties, must ensure that this is the case, being responsible for commissioning the EIA Report (and HRA).

Repeated and Unsubstantiated Downplaying of Conservation Importance and Impacts in the Assessment

There are repeated instances in the EIA Report's Biodiversity Chapter where assessments of impacts on birds downplay (i) the value of their habitats - because it is stated they are already subject to disturbance, or (ii) the significance of disturbance to birds - because it is stated they

[5] Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. September 2018 Version 1.2 - Updated April 2022

[6] Goodship, N.M. and Furness, R.W. (2022) Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

[7] See, for example, the inter-tidal and near-shore bird data presented in Appendix 6C: Intertidal and Near-shore Bird Surveys of the Inch Cape Onshore Transmission Works EIA report (ICOL,2018b) at OnShore-EIA-Appendix-6C-1of-2.pdf (inchcapewind.com) and OnShore-EIA-Appendix-6C-3of-4.pdf (inchcapewind.com). Others include the EIAs for SSE Seagreen 1A and for the Cockenzie Combined Cycle Gas Turbine Power Station application.

will move elsewhere within the SPA, or (iii) impacts being insignificant - because the area of impact is small. These assertions are consistently unsubstantiated by evidence (as already highlighted above) and are a style of assessment more typical of commercial developers seeking to justify damaging protected sites. These assertions are inappropriate in those circumstances, but are totally inappropriate for Councils, given the legal and policy obligations they are under to protect and enhance biodiversity, notably the Nature Conservation (Scotland) Act 2004 and National Planning Framework 4 (NPF4). Furthermore, no reference is made to the fact that many wildfowl and wader populations in the Firth of Forth have already suffered long-term declines as a result of development impacts, disturbance and habitat loss[8], and that approximately one third of the Firth of Forth SPA/Ramsar's qualifying species are in unfavourable conservation status (Protected Nature Sites (sepa.org.uk), accessed 19.04.2024). The Council's around the Firth of Forth, together with the Scottish Government, NatureScot, businesses and local communities, need to be working together to ensure qualifying features of the SSSI, SPA and Ramsar site return to favourable conservation status.

Examples of the unsubstantiated downplaying of conservation importance of habitats or species, and of impacts are, for example, in Table 7-5 Summary of Baseline Conditions and Evaluation of Importance of Ecological Features, which includes the statement that 'The sand dunes within the study area are narrow and disturbed; therefore, it is considered they do not meet the SSSI designation criteria'. In Section 7.6.2.1.1 'Firth of Forth SPA and Ramsar', another unsubstantiated statement is made, 'The area temporarily lost during construction constitutes a narrow linear area adjacent to the coastline which experiences high levels of disturbance from public use. This area is not considered to be important habitat for qualifying interests of the Firth of Forth designated sites, in comparison to the large expanse of sand flats along the coastline and the lagoons at Levenhall Links'. There is, however, no evidence to back up these assertions, on factors such as prey availability, carrying capacity, exposure to disturbance, or any of the other influences that need to be considered in order to robustly assess these impacts. The same applies in the assessments made in Sections 7.6.3.1.1 Firth of Forth SPA and Ramsar, 7.6.3.1.2 Outer Firth of Forth and St Andrews Bay Complex SPA, and 7.6.3.1.3 Firth of Forth SSSI. These are sites of international and national importance for conservation, already under significant multiple pressures, and it is essential that assessments of impacts are evidence-based and robustly reasoned. This is not the case currently, and this must be rectified. It is therefore essential that the Council (or Scottish Ministers) exercise the right to request further evidence, through Further Environmental Information and in the finalised HRA, in accordance with EIA guidance (see for example, NatureScot and Historic Environment Scotland (2018), referred to in Footnote 1, specifically Section D. 6), before confirming the Scheme.

Disturbance to Birds During the Scheme's Operational Phase

Related to the point of objection above on lack of evidence to support the assessments on international and national designations (in Sections 7.6.3.1.1, 7.6.3.1.2 and 7. 6.3.1.3), the EIA Report notes that:-

[8] e.g. McLusky, D., Bryant, D. and Elliott, M. (1992) The impact of land-claim on macrobenthos, fish and shorebirds on the Forth Estuary, eastern Scotland. *Aquatic Conservation*: *Marine and Freshwater Ecosystems* Volume 2, Issue 3, pp. 211-222, or Dwyer, R. (2010) Ecological and anthropogenic constraints on waterbirds of the Forth Estuary: population and behavioural responses to disturbance. *Environmental Science, Biology*.

'*The improvements to the active traffic network (particularly along the seawall and at the proposed Goose Green Footbridge) may result in increased pedestrian and cyclist traffic, which may create increased operational disturbance to qualifying bird species*'.

Evidently the Council's EIA Report makes it clear that it is uncertain whether or not the ATN works will result in increased active travel, in which case how can the expenditure, additional risk of impacts on internationally and nationally important designated sites, and carbon footprint of constructing these two ATN elements of the Scheme be justified? Without strong independent evidence that there will be sufficient active travel benefits, these two elements need to be removed from the Scheme (not least as there are already footpaths and cycle paths along these sections of the Scheme coastline).

That objection aside, these EIA Report sections contain no evidence to support the assessments made operational disturbance, and as such they are unsupported conjecture. This needs to be rectified (including in the HRA), firstly be inclusion of clear evidence-based and quantified prediction of the level of increased activity as a result of the ATN path and Goose Green Foot Bridge construction, compared to present levels [9], and secondly by ensuring the assessment of disturbance impacts on each qualifying species of the SPAs, Ramsar and SSSI are made on the basis of these predicted operational levels of activity, and supported by an appropriate level of detail and evidence.

Until such time as these are provided, I object to the Scheme.

Impacts on Recreational Amenity Over the Construction Period, Specifically Birdwatching

Musselburgh is one of the most visited birdwatching sites in Scotland (based on the number of referrals to the Musselburgh entry on the SOC's Where to Watch Birds in Scotland' mobile app), enjoyed by hundreds of visitors every year. This tourism and amenity value of the Scheme area for birdwatching is not given recognition in the EIA Report, and as a result there is insufficient attention given to mitigating disruption to this activity. This is significant because, as noted in EIA Report Section 4.7.3 'Sequencing of construction work', the Scheme's construction phase could take a period of five to ten years, imposing long-term damage to the area's use and reputation as an ornithology visitor attraction.

The Decision to Date by East Lothian Council Not To Publish the Draft HRA

No access has been provided to the current draft HRA for the Scheme. It would be greatly appreciated if the HRA could be made available by the Council, not least because, it would provide those with detailed local knowledge of the area's birds to provide useful feedback. In addition, in the meantime, it is respectfully suggested that the Council make a request to the SOC for relevant pre-existing bird data, and also to BTO, for species level and up-to-date WeBS data, so both sets of information can be included in the HRA and used as evidence to contribute to a robust assessment of effects from the Scheme alone and in combination with other plans and projects.

I also have the following objections to the scheme:-

1.Installation of a new bridge at the mouth of the River Esk. This is an unnecessary expenditure , as there are other bridges within an easy walking distance. Construction of a new bridge will

[9] Presumably these estimates are available from the business case for use of public money on the Musselburgh Active Travel Network.

severely impact on vital areas for roosting birds and will increse disturbance to wildlife. Given that the walkway along the seawall and along the River Esk is not a commuting route but used as a route for leisure, there is no need to speed up or shorten the pedestrian/ cyclists current route by building the proposed bridge.

2.The cost of the scheme is extortionately high, it has not been capped and the Council has been told the cost will probably increase . I object to the enormous level of costs being spent on this scheme , when other council services are suffering cuts such as care for the elderly, essential community health and wellbeing amenities libraries , leisure and culture.

Please acknowledge receipt of my letter of objection, in writing. Please also advise me of next steps, and timescales. Thank you very much.

Yours faithfully,

[redacted]

Subject: (0387) Objection to proposed flood protrecion scheme at Musselburgh
Sent: 23/04/2024, 16:12:06
From: [redacted]
To: Musselburgh Flood Protection Objections

Follow Up Flag: Follow up
Flag Status: Completed

Dear Mr Grilli

I am writing to object to the recently published Musselburgh Flood Protection Scheme.

I have been birdwatching at Musselburgh Lagoons since the 1980s. I have been a resident of East Lothian since 1976 when my parents moved from Fife [redacted]. My father worked at [redacted] and towards the end of his career at [redacted], with some responsibility for the [redacted]. As a birdwatcher I am concerned that the proposed scheme does not fully protect or enhance the site's internationally recognised importance for birds.

I object because the Environmental Impact Assessment (EIA) Report that East Lothian Council has commissioned does not meet the necessary requirements set out in EIA guidance and does not allow East Lothian Council to fulfil its biodiversity duties. Specifically:

Inadequacy of the EIA Report's Ornithology Baseline

The results presented in the EIA Report from surveys of shoreline and coastal birds (the 'through the tide counts') are insufficiently detailed to adequately assess the impacts of the Scheme on these species. This failure is especially important because the Scheme is adjacent to, or in places actually within, the Firth of Forth Special Protection Area (SPA), the Firth of Forth Ramsar Site, the Firth of Forth Site of Special Scientific Interest (SSSI), and the Outer Firth and the St. Andrews Bay Complex SPA. These are internationally and nationally important designated sites for birds, and any assessment of impacts on these designations require must be informed by comprehensive robust and appropriately detailed baseline data. The EIA Report does not present such data.

It is therefore essential that baseline bird survey data are properly presented, specifically that the distribution and abundance of qualifying features of the SSSI, SPAs and Ramsar site at least are mapped to species level and their abundance shown for each survey area (notably through the tide count survey areas), along with the key areas for roosting and foraging of those species. Without this information, the EIA lacks the necessary detail to enable consultees to judge whether or not the applicant's assessment of impacts from the Scheme is correct. Consultees cannot therefore also judge whether proposed mitigation measures are adequate, or whether the identification of residual impacts on birds can be relied upon. For all these reasons, the baseline survey data in the EIA in its current form is not fit for purpose. It needs to be rectified by the submission of Further Environmental Information, and until that is carried out, I object to the Scheme on grounds of inadequate baseline bird data being provided in the EIA Report. As additional bird surveys are still being undertaken, the more detailed results requested can be published at the same time as these additional data (but all to the appropriate level of detail).

On top of this failure to present survey results to the required level of detail for such a sensitive area and for such important species, the desk study component of baseline data collection has also been inadequate. To accord with EIA guidance[1], baseline bird data should comprise both survey results and relevant pre-existing data on bird species present, their national and local population trends, and insights into their relevant behaviour. The Firth of Forth has been the subject of intense ornithological study spanning several decades[2], and it is reasonable to expect that this body of data would have been drawn upon for the EIA Report, not least given the sensitivity of the area and the need to design appropriate and effective mitigation measures for construction impacts and impacts over the 100 year operational life of the Scheme. The desk study data included in the EIA also fails to meet the requests from key stakeholders. Notably, for example, the East Lothian Biodiversity Office who requested in their Scoping Report (see ELC on 28th November 2023, EIA Appendix C3.2) that '*The field surveys should be informed by a data search from ... useful data (that) may be available from sources including the East Lothian Council Ranger Service, British Trust for Ornithology and Scottish Ornithologists' Club*'.
Starting with the Scottish Ornithologists' Club, the EIA fails to incorporate into its ornithology baseline any of the comprehensive pre-existing bird data that exists for the Scheme area, collected over several years by highly experienced local ornithologists, many with decades of expertise in the area's bird life. It would be expected, at the very least, that given EIA guidance[3] and to comply with the request from East Lothian Council's own Biodiversity officer that the EIA authors would have submitted a data request to the Local Bird Recorder of the Lothian Branch of the Scottish Ornithologists' Club (SOC) to obtain relevant bird records for the area impacted by the Scheme. This was not the case, and therefore the EIA ornithology baseline suffers by not having the detailed insights into species presence, abundance, distribution and behavioural patterns to adequately inform its assessment (including of cumulative impacts), mitigation

design and proposals for enhancement. This is particularly the case for the assessments of impacts from the Scheme's construction compounds, the seawall improvement works, and the two sections of the Musselburgh Active Travel Network (ATN).

Moving on to obtaining desk study data from the British Trust for Ornithology (BTO), this key organisation administers a number of bird recording schemes, including the Wetland Bird Survey (WeBS), which cover this area. It is EIA good practice, as part of gathering desk study data for developments in coastal areas, to obtain and present WeBS results, alongside survey data. Bird surveys commissioned for EIAs are inevitably restricted to relatively short-term sample surveys, comprising snapshots of bird activity. The WeBS scheme and its predecessor have been running for decades and provide important long-term insights into species composition and abundance of waders and wildfowl of key sites, and long-term population trends. In particular, for large designated sites like the Firth of Forth SSSI/SPA/Ramsar, WeBS data are also essential to place local bird populations (i.e. the birds present in the Scheme area) in their wider Firth of Forth context, so that impacts from the Scheme, and cumulatively with other projects, can be adequately assessed. Whilst it is noted that in Section 7.3.3 of the EIA it states that the desk based assessment included data responses from organisations including the BTO, detailed WeBS data are not provided. The reference to WeBS data is limited to total species counts (in the EIA Section 7.5.6.1 'Desk-study and preliminary ecological appraisal'). This states:-

'Data obtained during the desk-based assessment identified the potential presence of the following protected species within the study area:

• Wintering wetland birds: the BTO Wetland Bird Survey (WeBS) data for the five-year period from 2013/14 to 2017/18 identified a total of 70 species of wetland birds (which includes unidentified and hybrid species) within the Eastfield to Musselburgh WeBS sector. Of these 70 species, 55 were recorded in the winter months during this period. The five-year mean peak count of wetland birds within the Eastfield to Musselburgh WeBS sector is 4,878 individuals, with a five-year winter mean peak recorded as 5,259 individuals (see Appendix B7.4 for details)'.

Instead of these agglomerated count figures, the EIA Report should provide the species-specific WeBS data. Furthermore, and contrary to the Chapter's statement that details of WeBS data are provided in Appendix B7.4, there are no details provided on the WeBS data for the area in that Appendix. What is required for the EIA (and HRA) is a map of the WeBS count sector to compare with the survey areas used for the through the tide counts, and for the WeBS data to be tabulated by species, comparing abundance figures from the survey work. Neither are presented in the Biodiversity Chapter or any of the published EIA Report Appendices.

Lastly in relation to the WeBS data, the totals that are presented are out of date, being '*from 2013/14 to 2017/18*'. The desk study for the EIA should have obtained the most recent five-year dataset available, i.e. up to the 2022/2023 non-breeding season, to help inform the assessment.

The inclusion of detailed WeBS data is common practice in EIAs (and HRAs) for coastal developments, in particular where developments overlap or are in close proximity to internationally important sites designated for their bird interests. As already highlighted, without these details, it is not possible to contextualise or corroborate the survey data provided by the applicant. This and the wider omissions in desk study data need to be rectified by the submission of Further Environmental Information, and until that is carried out, I object to the Scheme on grounds of inadequate baseline bird data being provided in the EIA Report.

Baseline Survey Accuracy

The bird survey data on which the Scheme's EIA Report depends appears to contain apparent anomalies, with some species noted that either have only very rarely ever been recorded locally and other species which may be mis-identified. The inclusion of these records undermines confidence in the reliability of bird (and other) survey work carried out for the EIA Report, and also in the rigour of the quality assurance processes that have been applied during the collection, processing and writing up of data used in the EIA Report. Specific examples include records of Stone-curlew, Water Pipit, Twite breeding, "flyover" Wood Warbler, Whimbrel in November, a Kittiwake flying up the river Esk (Appendix 7.4). Based on over 60 years of data held by the SOC, these records require verification. The almost daily coverage by experienced birdwatchers over the survey period also points to other anomalies, such as occasions when a large count of Velvet Scoters is reported in the EIA Report at a time when only a Common Scoter flock was present. Such questions on the reliability of the survey data are critical, given the conservation importance of qualifying features of the Firth of Forth SSSI, SPAs and Ramsar sites and Outer Forth and St Andrews Bay Complex SPA in such close proximity (and in some areas, overlapping) with the Scheme. It also underscores the importance of consultation with bodies such as the SOC and BTO to ensure that pre-existing data for the Scheme area are obtained, adequately used to aid data validation and quality assurance, and properly integrated into baseline data.

One further concern over the baseline survey surveys is the validity of the 'through the tide counts' which coincided with the construction activity for the new lagoons between 2021 to June 2023. Given that the EIA Report acknowledges that construction traffic along the seawall will cause disturbance to birds (including qualifying features of the Firth of Forth SSSI, SPA and Ramsar site), evidently the results from these surveys were not representative whilst the lagoon construction was on-going. NatureScot guidance on bird surveys clearly highlights the principle that surveys should not take place where there is disturbance that may change the abundance, distribution or behaviour of birds within the survey area[4]. This precaution has not been followed therefore, and it further undermines the reliance that can be placed on a significant proportion of bird survey data used in the EIA Report.

It is understood however, that bird surveys are still being carried out, I therefore object until these un-impacted additional bird survey results are published as part of the submission of Further Environmental Information and HRA.

Failure to Identify and Assess Habitat Loss from the Scheme

The EIA Report attempts to identify and quantify the loss of habitats from the Scheme, to assess the significance of these losses, the mitigation that will be required and the resulting residual impacts and their significance.

However, it completely fails to identify the main habitat impact from the Scheme, namely the loss of shoreline and intertidal habitats over its 100-year operational life. These losses will occur as a direct result of the Scheme's construction of hard defence structures along the coast where these are currently absent or limited, through what is known as 'coastal squeeze'. This impact needs to be fully identified and assessed in the EIA Report, in particular the Scheme's proposed hybrid wall structures at Work Sections 6 and 7 (impacting 325m and 290m of coastline respectively) and its concrete walls along Work Sections 8 and 9 (impacting 393m and 132m of coastline respectively) (see Table 4-2 'Summary of Scheme by work section' in Section 4.4.1 Scheme Layout Overview, and Figures Appendix A41j to A41l in Appendix A of the EIA Report). The existence of this operational impact is not even mentioned in the EIA Report Biodiversity Chapter, let alone assessed, with only the most cursory mention given in 7.5.9.3 'General trends'. The EIA Report therefore does not meet its own commitment (in Section 3.6.2 'Future baseline') to complete '*Where appropriate, an appraisal of the future baseline without the Scheme … where feasible to allow for consideration of the operational impacts of the Scheme over its 100-year design-life'*.

This is of particular concern because these habitat losses will impact the qualifying features of the Firth of Forth SSSI, SPA or Ramsar Site (and the conservation objectives of the latter two designations).

The omission of this impact in the EIA Report must be rectified and the necessary modelling and full assessment of habitat loss from coastal squeeze be fully assessed and published as Further Environmental Information. The assessment of these habitat losses on the integrity of the Firth of Forth SPA and Ramsar Site must also be included in the HRA, to inform the compensation that will be required, if should a derogation case be accepted.

Given how important this impact is, it is also worth re-stating the Council's published Scheme objectives (EIA Report Chapter 4, Section 4.1 and Table B4 in Appendix B4) that include the following Environmental Objectives:-

1. That the Scheme will achieve as a minimum a neutral impact on the environment.

2. To ensure that the Scheme includes appropriate catchment and natural flood management (NFM) measures.

3. To ensure that the Scheme considers the impact of climate change and includes appropriate provisions to mitigate any impact.

4. To ensure that the Scheme considers in full, and includes for any appropriate measures, to protect the Firth of Forth and its protected statuses.

Clearly, these objectives cannot be achieved if the Scheme's impacts are not adequately identified, assessed, and mitigated and if mitigation or enhancement proposals (such as those in EIA Report Table 7.7) are not considered in terms of resilience to sea level rise and climate change.

In addition to failing to include operational habitat loss, the habitat loss figures that are currently included for construction and operational impacts lack clarity and consistency across the Biodiversity Chapter and Appendices. For example, the extent of temporary lost habitat given in Section 7.6.2.1.1 'Firth of Forth SPA and Ramsar' is given as 'approximately 2.14 ha' but the habitat breakdown figures only add up to 1.711 ha. Similarly in Section 7.6.3.1.1 'Firth of Forth SPA and Ramsar', the permanent loss of habitat from the Firth of Forth SPA and Ramsar is given as 4.3 ha, but again the figures for the habitats lost amount to just over 1.46 ha. This lack of clarity and inconsistencies in the EIA Report make it difficult for consultees to clearly understand the scale or location of the Scheme's habitat impacts. It is important that these losses are clarified, including in the HRA prior to its finalisation, and if necessary, through the submission of Further Environmental Information.

Failure to Appropriately Identify Plans and Projects to Consider for the Cumulative Impact Assessment

Section 7.3.9 '*Cumulative effects'* of the EIA Report identifies that *'A review of developments in the local area as listed on the East Lothian and Midlothian Council planning portals was conducted. The assessment focused on developments of any size within the working areas and those over 1 ha in size up to 5 km from the working areas in Musselburgh and the reservoirs. In addition, Grangemouth Flood Protection Scheme (GFPS) was also considered as part of the assessment, as requested by NatureScot during consultation for GFPS'*.

The cumulative assessment needs to encompass developments that have significant potential to impact key ecological receptors. The potential for cumulative/in combination impacts is determined by impact pathways, not by arbitrary thresholds such as development size or distance from the Scheme (neither of which have any regulatory basis or reflect CIEEM guidance)[5]. Movement of birds around the Firth of Forth SPA/Ramsar site have been relatively well studied, and this information should be referred to in order to help determine potential impact pathways, and thereby the plans and projects that need to be taken account of in the cumulative/in combination assessment. It is important that this impact/pathway/receptor approach is adopted in the HRA's 'in combination' assessment, if made available to consultees, otherwise through the submission of Further Environmental Information.

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year. This tourism and amenity value of the Scheme area for birdwatching is not given recognition in the EIA Report, and as a result there is insufficient attention given to mitigating disruption to this activity. This is significant because, as noted in EIA Report Section 4.7.3 'Sequencing of construction work', the Scheme's construction phase could take a period of five to ten years, imposing long-term damage to the area's use and reputation as an ornithology visitor attraction.

The Decision to Date by East Lothian Council Not To Publish the Draft HRA

No access has been provided to the current draft HRA for the Scheme. It would be greatly appreciated if the HRA could be made available by the Council, not least because, it would provide those with detailed local knowledge of the area's birds to provide useful feedback. In addition, in the meantime, it is respectfully suggested that the Council make a request to the SOC for relevant pre-existing bird data, and also to BTO, for species level and up-to-date WeBS data, so both sets of information can be included in the HRA and used as evidence to contribute to a robust assessment of effects from the Scheme alone and in combination with other plans and projects.

Please acknowledge receipt of my letter of objection, in writing. Please also advise me of next steps, and timescales. Thank you very much.

Yours faithfully,

[redacted]

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[1] See the Environmental Impact Assessment Handbook Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment process in Scotland Version 5, April 2018. NatureScot and Historic Environment Scotland.

[2] E.g. Bryant, D. (1987) The Natural Environment of the Estuary and Firth of Forth. *Proceedings of the Royal Society of Edinburgh, Section B: Biological Sciences*, Volume 93 , Issue 3-4:, pp. 509 – 520 DOI: https://doi.org/10.1017/S0269727000006916

[3] For example, see C.6.3 and Box C. 6. Practice .1. in the reference cited in Footnote 1.

[4] Although relating to bird surveys for wind farms, the importance of avoiding construction disturbance that may affect survey results is made clear in Section 2.1.1 and Box 1 in NatureScot (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. March 2017, Version 2.

[5] Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. September 2018 Version 1.2 - Updated April 2022

[6] Goodship, N.M. and Furness, R.W. (2022) Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

[7] See, for example, the inter-tidal and near-shore bird data presented in Appendix 6C: Intertidal and Near-shore Bird Surveys of the Inch Cape Onshore Transmission Works EIA report (ICOL,2018b) at OnShore-EIA-Appendix-6C-1of-2.pdf (inchcapewind.com) and OnShore-EIA-Appendix-6C-3of-4.pdf (inchcapewind.com). Others include the EIAs for SSE Seagreen 1A and for the Cockenzie Combined Cycle Gas Turbine Power Station application.

[8] e.g. McLusky, D., Bryant, D. and Elliott, M. (1992) The impact of land-claim on macrobenthos, fish and shorebirds on the Forth Estuary, eastern Scotland. *Aquatic Conservation*: *Marine and Freshwater Ecosystems* Volume 2, Issue 3, pp. 211-222, or Dwyer, R. (2010) Ecological and anthropogenic constraints on waterbirds of the Forth Estuary: population and behavioural responses to disturbance. *Environmental Science, Biology*.

[9] Presumably these estimates are available from the business case for use of public money on the Musselburgh Active Travel Network.

[redacted]

23rd April 2024

Carlo Grilli

Service Manager – Governance
Legal Services

East Lothian Council

John Muir House

Haddington

EH41 3HA

[redacted]

Dear Carlo Grilli

I am writing to object to the recently published Musselburgh Flood Protection Scheme.

My [redacted] mother and I live on the sea front and our home is shown on the map as being at 'risk of flooding. In the [redacted] years that we have lived in our home there has never been any flooding. The high banking [redacted] easily handles all high tides and storms. I object to the published scheme because:

OBJECTION 1 - We object to the fact that a high wall is to be constructed [redacted]. We have lived in [redacted] all our lives and have a beautiful view of the harbour. We do NOT want to look at a wall (which will no doubt be covered in grafitti within days of completion)
OBJECTION 2 - We live in an old property and we have major concerns that the construction of the wall would cause damage to the foundations of our home. We had similar issues when the pumping station was being built. So much so that surveyors were involved.

OBJECTION 3 - We object to the fact that, as tax payers, the massive ammount of public money that the scheme is going to cost. This money should be used to fix / rebuild the Brunton Hall (which incidentally was built by Brunton FOR the people of Musselburgh)

Please acknowledge receipt of my letter of objection, in writing. Please advise me of next steps, and timescales, I would like communication to be via email or post.

Yours faithfully

[redacted]

Subject: (0389) Re: Objection to proposed flood scheme
Sent: 23/04/2024, 16:21:02
From: [redacted]
To: Musselburgh Flood Protection Objections

Categories: [redacted]

Sent from my iPhone

On 22 Apr 2024, at 20:56, [redacted] <[redacted]> wrote:

[redacted]

To Whom it may concern,

I'm writing to express my objection to the proposed Musselburgh Flood Protection Scheme.

Our home is in close proximity to the river Esk and the seafront and the proposed scheme will therefore have a direct impact on our lives.

My first objection is related to the overall design of the scheme which seems to rely on tons of concrete being used without any consideration to the natural and historical beauty of our town. I believe that unsightly concrete barriers are very dated solution and will forever destroy people's enjoyment of the river and the seafront. There is nothing esthetically exciting in the design. Nothing at all. Just concrete nightmare. I'm shocked that East Lothian Council has not put any emphasis on preserving charter of the town and hasn't chosen better suited solutions to deal with their concerns. We live in a conservation area and Council is very strict when it comes to individuals making improvements to their properties. I'm sure that if we wanted a high concrete wall around our property we wouldn't be granted permission. It would be unthinkable.

Musselburgh is beautiful. Everybody agrees that river with its green riverbank, ducks, geese and all kinds of birds is truly special to our town.
The Flood Protection Scheme design is simply not fit for character of the town.

My second objection is to the hight of the proposed walls around the river and the seafront. The proposed walls are extremely high and at some places the walls will be blocking all the views completely. Children and wheelchair users will be the most affected by this. What is the purpose of such a high walls? The flood might never happen but people have to look at the walls every day.
I object to the fact that we will not be able to enjoy beautiful views we got accustomed to enjoy.

I also object to many mature trees being killed to facilitate this scheme.
We should enhance green spaces and protect our trees and wildlife. I would expect the Council to choose the scheme that prioritises natural solutions and not the one that replaces trees and green spaces with concrete.

I hope you take my objections into consideration and don't go ahead with this depressing scheme.

Regards, [redacted]

P.s

Please acknowledge receipt of my letter of objection, in writing.

Sent from my iPad

[redacted]

20th April 2024

Carlo Grilli

Service manager – Governance

Legal Services

East Lothian Council

John Muir House

Haddington

EH41 3HA

Dear Mr Grilli,

I am writing to express but objection to the recently published Musselburgh Flood Prevention Scheme.

There are several points I wish to bring to you attention as a concern of mine.

Lack of information being directly given to the residents directly affected but the proposed construction of the [redacted] Bridge. I have not had any communication directly from the council in any part of the planning process.

Assurance to the property owners in the [redacted] area, that the inevitable damage that will arise from the building works on the already unstable ground will be, surveyed prior, monitored, and repaired in a timely fashion. I require a guarantee that this will be in place should the bridge go ahead.

I would like you to explain to me exactly why this bridge is deemed necessary, when there are two bridges only a few hundred meters' downstream. If these bridges are in need of repair then the replacement must be in the same location. There has never been a bridge at the mouth because it is not required. It has absolutely nothing to do with Flood Prevention.

The natural beauty of the mouth of the Esk will be lost should this go ahead. The natural habitat of many species I regularly enjoy watching will be damaged beyond any recovery. This includes The Pipistrelle Bat that can be seen on evenings flying round the mouth if the river and in our garden. Bats are a well known sign of a green

healthy environment, the noise and disruption of turning the area into a building sight will affect them detrimentally. A survey of their nesting sight must be carried out where the planning of this project is concerned. You may be unaware that all UK bats are protected by European & UK Legislation. The Conservation of Habitats and Species Regulation 2010 and the amended Wildlife & Countryside Act of 1981 affords complete legal protection to all bats and their roosts. I will be seeking advice if there is not a thorough survey done.

Living so close to the river I do understand the need for some flood prevention but the cycle paths and bridge do not meet this criteria.

The scheme needs to be re-examined and a more sympathetic approach needs to be found.

Any communication with me regarding this matter is required to be in writing by post.

Please acknowledge receipt of this letter of objection.

I look forward to being advised of the next steps in the process.

Yours sincerely,

Mr C Grilli
Service Manager- Governance.
Legal Services.
East Lothian Council
John Muir House
HADDINGTON
EH41 3HA

EAST LOTHIAN COUNCIL
RECEIVED
23 APR 2024
LEGAL & PROCUREMENT

ELC
CUSTOMER SERVICES
23 APR 2024

From: Legal
Sent: 23 April 2024 17:06
To: Musselburgh Flood Protection Objections
Cc: Grilli, Carlo
Subject: (0391 [redacted]) MAIL: MFPS Objection letter received today 23/04/24 from [redacted]
Attachments: 20240423 MFPS Objection letter from [redacted]f

Categories: POST, Added to excel spreadsheet, [redacted]

Hi Carlo,

The attached arrived this afternoon.

Thanks
[redacted]

[redacted]
legal@eastlothian.gov.uk
Please note my working days are Monday to Thursday

[redacted]

Service Manager – Governance
Legal Services
East Lothian Council
John Muir House
Haddington
EH41 3HA

Also sent by email.

EAST LOTHIAN COUNCIL
RECEIVED
23 APR 2024
LEGAL & PROCUREMENT

19th April 2024

Dear Sirs

I reside close to [redacted] and am writing to object to the Musselburgh Flood Protection Scheme for the following reasons:

1. My wife and I use the [redacted] area daily to take our dog for walks and for exercise in general. Living and walking here; being surrounded by the natural beauty of the shore is essential for our well-being and mental health.

   The area will be ruined for years through noise pollution and general mess of the extensive building works in the area. When I bought my house in [redacted] certainly did not do so because I envisaged residing adjacent to a vast building site.

   My 1st objection is regarding the general disruption to the whole area, to our enjoyment of the links and to our lives residing in the area.

2. The nature of the proposed project, i.e. concrete walls, is brutish and, in my opinion, ugly. Based on [redacted] including the Musselburgh area, I am quite sure that these walls will not only block views of the sea for many, but will most assuredly be graffiti - covered in no time at all. Your talk of "enhancement of the area" naive. Come have a look, the area doesn't need to be enhanced, and certainly not by way of graffiti strewn walls.

   My 2nd objection is regarding the flood wall proposal, which will detract from the beauty of the links area.

3. The River Esk is inhabited by families of swans, geese, ducks and many other birds and wildlife. What will happen to them when the work is being carried out? The disruption to wildlife will be traumatic and, for a council which likes to think itself at one with green goals, it is incredible that they will look away when wildlife will be uprooted / die as a result of works being carried out in the area.

   My 3rd objection is of the danger to all wildlife in the area, particularly in the area of the River Esk.

[redacted]

4. Your information reveals that heavy plant and processes will be in operation, directly adjacent to many of the trees in the area, which will most likely lead to the destruction of trees.

   The consultants and council must surely be aware of the threat to so many trees as a result of works in pursuance of the flood scheme. It appears that both parties may have been deliberately obtuse when indicating otherwise. I also ask that you clarify in detail your estimates of damage to trees in the area.

   My 4th objection is the threat of damage to trees in the area of the flood protection scheme.

5. Living in the area, I can vouch for the amount of visitors the shoreline at Musselburgh attracts all year round. That positively impacts on the local economy, from the food van at the Back Sands to local cafes, shops and other small businesses. Has there been a proper analysis of the overall impact of the proposals on tourism, which many local businesses depend on? Will people even want to come here after all the work is concluded? An impact assessment, preferably by a 3rd party, surely must be considered.

   My 5th objection is the negative impact on tourism and local businesses in Musselburgh.

6. Interestingly, measures to manage flood risk in Musselburgh do not appear to be consistent elsewhere. There has been no assessment of the impact or risk of this scheme on other coastal area i.e. Portobello. Or do you think that the risk to flooding will stop at Joppa? Will our flood management negatively affect the neighbouring areas, east and west of Musselburgh? Joined up thinking would be nice with an overall strategic view concerning the entire stretch of the east coast.

   My 6th objection is that the proposed future flood management system does not appear to align with any neighbouring areas.

7. It is my understanding there has been a reticence by consultants and the council to examine other possible methods of flood management. I believe that the council undemocratically removed natural flood management before voting on the scheme in January 2024. Why would that be?

   Have you really examined all possibilities, because there is no evidence that the consultants and council have?

   Why did the council fail to consider nature - based solutions as proposed by Dynamic Coast before seeing that body's full assessment, for example?

   There is a general feel that the consultants have marked their own homework. Why, for such a huge project, which has such wide - ranging consequences for the community, have the proposals not been peer reviewed?

   This is a scheme, with not even a take it or leave it option attached. A few tweaks here and there, but this is what we are getting, seems to be the general message.

   My 7th objection is that there has been an absence of genuine consideration of alternative options by either the council or the consultants and why hasn't the proposed scheme not been independently peer reviewed?

8. I have resided in this neighbourhood for [redacted] years, and there have never been floods. When the sea is stormy, we get waves splashing on the road, but no one has ever been evacuated for flooding.

   Your proposals are based on the year 2100. How can you know with any accuracy that sea levels will increase by then?

   My understanding is that SEPA advised the consultants that a sea level rise of 86cms in the future. Aren't there other studies which do not support that figure?

   As it stands, my grandchildren will be saddled with this eyesore of a scheme to live with.

   My 8th objection is to the uncertainty of data for potential flooding in the area.

9. This is an expensive project overall, and no doubt a nice earner for the interested parties. However, we are living in difficult economic times. Our council have declared a financial crisis, whereby they cannot even provide basic services anymore. We now have 3 – 4 week bin collection imminent, but the local council are proposing to spend millions on a what - if operation.

   As sure as night follows day, those costs are bound to increase (anyone for a ferry?) and tax – payers / council taxpayers will have to foot the bill.

   My view is that the council should take a pause, and see that this massive change for us all, when basic services are struggling, is not a good look. Your voters see this, and you should be more sensitive to them and their needs.

   My 9th objection is on the grounds of economics, and waste of tax – payers money, when there is a current huge financial crisis.

10. The new proposed Goose Green bridge is unnecessary and does not contribute to flood management. However, if a new bridge is proposed, then it should fall within planning permission constraints. Such a structure requires planning permission.

    My 10th objection is against the unnecessary proposal for the Goose Green bridge, which should require planning permission to go ahead.

In conclusion, I do hope that the local council see sense and at the very least pause this scheme which the people of Musselburgh simply do not want.

Please acknowledge receipt of my letter of objection. Please advise me of next steps, and timescales. I do not wish commmunication to be in person, but communication via email or by post. My full contact details are listed below.

Yours Faithfully,

[redacted]

EAST LOTHIAN COUNCIL
RECEIVED
23 APR 2024
LEGAL & PROCUREMENT

Subject: (0392) 34 objections to the recently published Musselburgh Flood Protection Scheme (MFPS)
Sent: 23/04/2024, 17:09:26
From: [redacted]
To: Musselburgh Flood Protection Objections
Cc: [redacted]

Follow Up Flag: Follow up
Flag Status: Completed

[redacted]

23 April 2024
Service Manager – Governance, Legal Services
East Lothian Council
John Muir House
Haddington
EH41 3HA
mfpsobjections@eastlothian.gov.uk
Dear Service Manager

Thank you for your letters dated 14 March 2024. I am writing to object to the recently published Musselburgh Flood Protection Scheme (MFPS).
I have interest in the land belonging to [redacted] being the owner and occupier of [redacted] which I understand from your plans will be affected by the works being carried out in adjoining land within 2 metres per the 'pink line' on your plans.
Please see my list of objections below of why I object to the published scheme with a statement of reasons for the objection as requested.
Each objection should be included and counted as a separate objection in East Lothian Council's (ELC's) reporting of objections to this Scheme.

OBJECTION 1 – receiving 3 copies of your "Scheme Notification"
I object to the waste of both financial and paper resources from an environmental perspective in you sending 3 identical Scheme Notifications to my property. The only difference is one stated "THE CURRENT OWNER", the second "THE CURRENT OCCUPIER" and the third "[redacted]". Assuming there is a requirement for you to ensure that all 3 options open the letter, you could simply have combined ie THE CURRENT OWNER/ THE CURRENT OCCUPIER / [redacted] and save valuable resources?
Please also confirm where you obtained the details from for my personalised version – [redacted] - as [redacted] and my middle name of [redacted] are not on my Council Tax payment information - and also confirm that a UK General Data Protection Regulation (GDPR) /The Data Protection Act 2018 breach has not taken place?
OBJECTION 2 – the complexity of your MFPS documents
I object that lay language is not used in the many MFPS documents. For example, in the Scheme Notification itself "a 0.5% AEP (Annual Exceedance Probability) Flood Event (which is also known as a 1 in 200 year return period flood event) from the River Esk…".
I object that there is no model of the planned works so that they can be unambiguously viewed. I object that sensational pictures of cars bobbing down the river were used.
OBJECTION 3 – How the risk is calculated
I object to how you have calculated the flood risk and that the modelling data that informed this has not been released and so it cannot be verified. I object that the major cornerstone of the plans was not peer-reviewed.
You also contradict this in the EIA by saying that the although the flood risk increases during the works it is still "Low" or "Medium".
I object that Alan Stubbs of ELC stated to me in one of the 'consultation events' that he had "evidence" of the stated flood risk when it is a prediction. His manner was exceptionally unprofessional and patronising towards me in this regard.
OBJECTION 4 – my home insurer does not consider my property at risk of flooding
I object that ELC concludes a flood risk when this is contradicted by my home insurer who consider that my home is not at risk per the industry-wide flood maps that they use.
OBJECTION 5 – the works being carried out will increase the risk to my property

I object that the EIA report says that the risk of my property being flooded will increase during the works. I have not been directly contacted about this and no mention is made of how this will affect my buildings insurance. Please confirm that you will pay for an independent survey to be done on my property before work begins so that any damage can be fully evaluated and that full compensation will be provided. Please include the compensation details and how the agreement of homeowners to proceed will be obtained.

OBJECTION 6 – not enough time given to review scheme documents

I object that as well as being too complex, it was not humanly possible to read the volume of information in the 30-day timeline given to object. To add to this, the documents were not made fully accessible – only one set being available only during standard working hours in one place in Musselburgh and not also the local library which is open at least for some hours on Saturdays. This discriminates against working people but also those with accessibility issues. Offering to provide a copy for £1000 is not consultative. Meanwhile there appears to be no deadline for the MFPS proposers where it is their full-time job unlike residents who are juggling with their separate jobs.

OBJECTION 7 – appropriate and up to date expertise not involved in the design of MFPS

I object that it is not evident that the appropriate expertise has been involved in the design of the MFPS resulting in lack of nature-based alternatives/ natural flood management and even more modern civil/hard engineering concepts if these can be clearly justified.

I also object that the designs are for year 2100 on the coast and much of the river (tidal parts) when at the pace that technology is advancing much better designs will be available nearer the time.

OBJECTION 8 – root causes not being targeted

I object that recognised root causes of flooding in Musselburgh are not considered as part of the MFPS, for example maintenance of drains on roads.

OBJECTION 9 – inclusion of counterproductive actions

I object to the contradictions of a flood protection scheme removing very mature trees when it is proven that trees are a natural protection against flooding and narrowing a river when basic scientific understanding knows that narrowing a channel for water movement will increase its height. The casual way trees are indicated for possible destruction is astonishing, not only as they aid in preventing flooding, but as mature trees should only be felled if diseased or dangerous neither of which apply. It is also not clear if the works themselves could endanger more trees, for example, by interfering with their root systems. Ironically trees also absorb noise and intake carbon dioxide increasing the negative impact of the works on neighbours. I also object that increasing the accommodation of water by the river by dredging has also been rejected with no scientific back up.

OBJECTION 10 – inappropriate expertise advising in council meeting

The 3 main names I have seen most associated with this project and who attended the Council meeting of 31st Oct 2023 – Conor Price, [redacted] and Alan Stubbs - per their Linkedin profiles are Civil Engineers. I object to the inherent bias of 3 civil engineers advising lay council members that nature-based solutions have no value and on the merit of the Eddleston Water Project. The conduct of the aforementioned Mr Price was also unprofessional, for example, saying in answer to a question from Councillor McIntosh “that is not the question, this is the question”. Sadly, Ms McIntosh did not hold him to account for this but accepted his response which shows a lack of necessary challenging from our elected representatives.

I object that the speaker’s affiliations are not made abundantly clear, ie that Mr Conor Price is not an ELC employee but the owner of a consultancy firm, CPE Consultancy, and [redacted] is an employee of the engineering services company Jacobs.

OBJECTION 11 – no transparency and possible conflicts of interest

I object that the aforementioned Mr Conor Price has been given an ELC email address which misleads the public as he is not an ELC employee but the owner of a consultancy firm, CPE Consultancy.

OBJECTION 12 – cost to taxpayers

I object to “the estimated cost of the Scheme operations proposed to be carried out is one hundred and three million five hundred and thirty-five thousand pounds sterling (£103,535,000)”. Where is the value of money in spending over £100 million pounds to protect “… in order of 3,200 residential and non-residential properties in Musselburgh…”? This is over £32,000 per property. Surely it would be cheaper to protect each property individually?

At the same time, ELC says it must raise council tax and, for example, does not have enough money for essential services such as elderly care.

What happens if the scheme, as many do, goes over budget. Is there a risk of it being abandoned part-way or the works being drawn out further inconveniencing locals and visitors?

OBJECTION 13 – lack of scrutiny

I object that there appears to be no independent monitoring of this MFPS.

I object that there is no peer review of something so major and costly.

It is regularly apparent that those involved can ‘mark their own homework’.

I object that communications dismissing concerns are not backed up by rigorous evidence but seem to be basic opinion of the commentator. I have even seen reference made to previous comments by Jacobs at previous events in documents which is not due process.

OBJECTION 14 – consultation process

I object that there has been a lack of true public consultation and involvement. The events organised felt like they were ticking boxes. The feedback questionnaires in particular were not correctly designed making them ineffective and biased but regardless so-called support was quoted on the glossy brochures sent by the MFPS. However, as the anonymised feedback was not made available, this could not be verified.

OBJECTION 15 – exploitation of the Flood Risk Management (Scotland) Act 2009

It is already a travesty that the Scottish Government passed an act bypassing the protection aspects of planning permission, but I object that the designers of the MFPS exploit this. There is a complete lack of democracy in how the MFPS has been conducted. This was demonstrated by ELC failing to pause the current MFPS to investigate other options despite a huge public petition.

OBJECTION 16 – Conservation Area consent
I object that Conservation Area consent is not covered nor is due diligence shown to the 2009 Act Town and Countryside planning act.
OBJECTION 17 – the rush to proceed
I object to the time pressure quoted to be relate to funding cycles and that at the first meeting I attended at the Brunton Hall Musselburgh an individual there representing the scheme answered me that the MFPS was being proposed as "the money is available". Money being so called available is not a justification for implementing such a scheme.
OBJECTION 18 – not waiting for lessons learnt from previous projects
I object that a common-sense approach has not been adopted to wait until lessons from the flood project in Hawick, which I understand is being done by the same company.
OBJECTION 19 – human involvement risks
I object that the incorporation of mechanical flood prevention aspects that require human involvement increases the risk of failure which has already been evidenced in Brechin.
Again, I ask why lessons learnt are not being incorporated from previous projects.
OBJECTION 20 – neglect of what should be ELC priorities
I object that the exorbitant costs of the MFPS could result in ELC going into even more debt and neglecting essential services to residents.
OBJECTION 21 – the maintenance costs have not been considered or clarified
I object that the maintenance costs and commitment have not been established which is even more relevant as per the risk prediction this is for events quite some time in the future.
Graffiti for example is a well-recognised risk of building walls and not only has the maintenance of this not been considered, nor has the offensiveness and thus reduction in use of the amenities that this can bring.
OBJECTION 22 – reduction in the comfort within my home during the works
I object to the noise and vibrations from the piling that is planned in the current MFPS.
Having experienced piling work from the recent 'Wireworks development', I know how unpleasant this considerable vibration is to the human body especially at such close quarters. I have also seen cracks appear in my property since that work was done – as above how neighbouring properties are to be protected from such risk has not been outlined.
As an asthmatic, I am particularly worried about the increased dust and other pollutants that may enter my home.
I am concerned about the impact of increasing traffic build up in the vicinity and possibly being trapped in the area in terms of moving my car / having nowhere to park my car near my home to support normal life.
OBJECTION 23 – reduction in the comfort around my home if the MFPS is completed
I object that I chose to live very near a river and did my due diligence and accepted any risks of this, but now my access to the river for recreation and health will be removed by a wall.
OBJECTION 24 – pollution from works
I object to the increased pollution that will be generated from the planned works for the MFPS, for example, the increased generation of carbon dioxide to not only all wildlife but the risk of this to my health as an asthmatic.
OBJECTION 25 – inclusion of "Musselburgh Active Travel (MAT)" in the MFPS
I object to the inclusion of MAT and 'active travel' elements in a scheme to prevent flooding as, for example, building an extra bridge at Goose Green and widening footpaths do not reduce risk of flooding and require planning permission.
In particular, I object as stated in the EIA that inclusion of MAT has actually informed the MFPS introducing elements contrary to flood protection, for example, river narrowing to achieve wider paths.
I object to the confusion this separate element adds to the already complex plans and that in particular when locals took the time and effort to query this, the ELC councillors, the council officers and the MFPS consultants contradicted each other and could not confirm if MAT, which of course requires planning permission and conservation area consent, was separate from their notified Flood Scheme.
OBJECTION 26 – inclusion of MAT in the MFPS increases the hard engineering
I object that by including ramps to access bridges over the river Esk as part of MAT which is not flood protection, this means for example higher walls are planned as part of MFPS with the resultant impact on views and danger of climbing/falling into the river from one of the walls when there are so few places which allow access to the river, and thus back to land.
OBJECTION 27 – information received by councillors for their vote in January
I object that the documents/information approved in the January council meeting are not the same as those that were then notified in March, particularly as above the MAT element, and that they were not complete, for example Councillors did not have the EIA.
OBJECTION 28 – Significant negative effect of the works on the environment
I object to both the impact of the works being carried out and the completed works on the many habitats that co-exist along its course, including in the afore-mentioned trees marked for destruction/ possible destruction. Ironically, trees also absorb noise and intake carbon dioxide increasing the impact of the works on the health of individuals in neighbouring properties.

OBJECTION 29 – political hustling
I object to the hypocrisy shown and politicising of concerned residents. For example, tree dressing has long been done in Musselburgh for a variety of reasons/events and yet when it was done to mark which trees were to be killed as part of the proposed MFPS, the local MSP decided it was dangerous to the trees even though this had never been raised before.
I object to the general disrespect shown to people who challenge the design of the MFPS.
OBJECTION 30 – false advertising
I object to the false advertising of the glossy MFPS brochures received. For example, "Delivering Environmental Enhancement" when no such enhancement of the environment is evident in the MFPS.
OBJECTION 31 - lack of support from MSPs and MPs

I object to the lack of support from MSPs and MPs just pointing people back to ELC who then direct to their private consultant Mr Price. Their line being that implementing "flood risk" falls to the local council when that is not what people were objecting to *per se* but instead to how the MFPS project has been managed. The fact that they could not recognise the issues being raised is very worrying.

OBJECTION 32 – reduction in the desirability of historic Musselburgh

I object that this scheme will reduce the desirability of historic Musselburgh to both tourists and locals impacting local businesses / the economy.

OBJECTION 33

I object to the stress that this is causing me, not only in having to fit in time to object in just 30 days but the worry that my home environment is about to be destroyed and my mental and physical health adversely affected.

I object that I will be stuck once the work starts, unable to sell my property even if it no longer meets my physical needs.

OBJECTION 34

I object that it has not been made clear how objections will be validated.

Please confirm that once again ELC, the consultants and Jacobs will not be 'marking their own homework' but that an independent, robust, indisputable process is in place?

Please acknowledge receipt of my letter containing 34 separate objections, in writing. Please advise me of next steps, and timescales. I would like communication to be via email only.

Yours faithfully

Subject: (0393) Flood Damage River Esk
Sent: 23/04/2024, 17:13:29
From: [redacted]
To: Musselburgh Flood Protection Objections

Follow Up Flag: Follow up
Flag Status: Completed

Service Manager – Governance
Legal Services
East Lothian Council
John Muir House
Haddington
EH41 3HA

24/4/24
Dear Sir / Legal Services

I am writing to object to the proposed Musselburgh Flood Protection Scheme 2024. I [redacted] the land affected and my business will be affected by lost of the bridle path that will be decimated by the construction of the debris catcher across the Esk on the west side of the overbridge that carries the A1 dual carriageway and the works to construct access roads to the debris catcher.

These are my reasons for objection to The Scheme:

1/ Disturbance: The construction traffic and all maintenance vehicles will be using a narrow quiet road [redacted] and harming my business. This will cause a noise and dust nuisance to me which does not currently exist.

2/ Traffic Generation: The road the debris catcher construction traffic and subsequent debris catcher maintenance traffic propose to use is a narrow private road and used by horse riders, walkers with prams and small children, the movement of livestock, a low volume of cars accessing the livery yard and light farm traffic. It has a speed limit of 10mph. Vehicles must not pass horse riders or horses being led any faster than 10mph. Using this narrow private road for heavy construction and maintenance vehicles will put the other road users at risk and will create a health and safety issue. It will also damage the already fragile road surface.

3/ Unnecessary cost: I really object to tax payer money being wasted to create a new access road to the Esk when there is already a fit for purpose, flatter tarmac access road from Cowpits Road. The proposed site of the debris catcher currently has no access for vehicles of any sort. It is an unsurfaced rural path and totally unsuitable for heavy vehicles. The plans show the access road will need to be constructed over a soft grass livestock field, then through an ancient and well established woodland, down a steep fragile river path that is not robust enough to support heavy construction vehicles and subsequent heavy machinery and vehicles needed to clear the debris catcher. The entire river banking would need to be reinforced before it could be used for this purpose. There is already an asphalt access road to the Esk in Grove which has easy access from Cowpits Road. Therefore a cheaper and less damaging option would be to place the debris catcher to the east of the A1 dual carriageway over bridge, in the vicinity of the railway over bridge and use the existing asphalt access track/road along the Grove to construct the debris catcher and subsequent debris removal. However removing any type of debris catcher from the scheme is the best option because wherever one is constructed, there will be an unacceptable cost and it will cause flooding in the areas upstream where there was previously none. It simply shifts the problem and does not provide a solution.

4/ Environmental Impact: The construction of the access road for the debris catcher will result in the loss of grazing land. The construction and extraction process will disturb and worry the livestock. It will damage and destabilise the fragile high river bank path resulting in landslips.

Hundreds of trees and the natural path will need to be destroyed in order to build a road wide enough for the construction and debris extraction vehicles. The destruction of trees and natural habitat will be damaging to the wildlife in this location. There are deer, foxes, hare, buzzards, bats, squirrels, possibly badgers and other creatures too numerous to list in this woodland. In this world of climate change activists we are supposed to be saving trees not destroying them for a poorly designed flood protection plan that is likely to cause more flooding and environmental damage than if no action was taken at all. It is an absolute disgrace that the designers have concluded that it is acceptable to destroy this area of natural beauty and the wildlife that occupies it when the proposed debris catcher will actually do more harm than good. The proposed mitigation plans are woefully inadequate and poorly thought out,

5/ Flood Risk: Common sense and logic would make a sensible person conclude that the proposal to narrow the river in Musselburgh is more likely to cause flooding in Musselburgh and also damage the environment by causing areas upstream to flood. This will increase erosion and cause multiple landslips along the already fragile and crumbling Esk Valley.
Additionally my experience of debris traps is that when they are blocked and a dam is formed, there are never any Council resources available to deal with the blockages in a timely manner and the surrounding areas become severely flooded. The debris catcher will ensure more areas along the Esk will be flooded than before. The plans for a debris catcher should be removed completely from the scheme.

6/ Loss of Amenity / Health and Well Being: The construction works would be detrimental to my mental and physical health and wellbeing. The proposed site of the access road and the debris catcher will spoil my enjoyment of the countryside. I ride my horse on this woodland bridle path and ford the river at this point several days a week. Building the access road and debris catcher in this location would rob me of this healthy activity. There are around a hundred or so horse riders that regularly ride horses on the bridle path and ford the river. Robbing them of this natural path and the ability to ford the river to enjoy the bridle path on the opposite side will negatively affect their health and wellbeing too.

The Musselburgh Flood Protection Scheme design has conveniently ignored the requirements for horse riders of which there are hundreds in the local area. The design of the scheme and its active travel plans excludes and discourages horse riders the majority of whom are women and children. The loss of amenity for horse riders must not be ignored and the scheme should be redesigned so horse riders are included and catered for.

Yours Faithfully

[redacted]

Subject: (0394) Submission to Musselburgh Flood Protection Scheme consultation
Sent: 23/04/2024, 17:14:51
From: [redacted]
To: Musselburgh Flood Protection Objections

Follow Up Flag: Follow up
Flag Status: Completed

Categories: [redacted]

Dear Mr Grilli,

I am writing to object to the proposed Musselburgh Flood Protection Scheme 2024 (the Scheme).

My name and address are:

[redacted]

I have an interest in land affected by the Scheme, as my property which I own jointly with my husband is next to Fisherrow Links and the Coast and close to the river and river mouth. It's proximity to the Scheme means it may be vulnerable to damage during construction of the Scheme.
1.I object that no pre work survey of my property has been suggested.
2. I object that there is no clear information on compensation if the works or works traffic damage my property
3. My family and I use Fisherrow Links for exercise and walking and it is essential to our physical and mental health. The construction and the Scheme itself would directly impact our ability to continue to so.

Coastal defences and Dynamic Coast erosion report

I object to the current proposals from the mouth of the Esk to the Brunstane Burn (work sections 6-16) on the grounds that the expert report commissioned by ELC from Dynamic Coast, which was not available to Councillors when they voted on the Scheme, makes clear that there is a "wider and currently unaddressed future erosion risk… that may threaten the Scheme's proposed defences and other assets along the town's frontage". This report was clear that further action will certainly be required in order to protect the new defences from erosion, but the Proposed Scheme gives no indication of what this might be, including costs, feasibility, or environmental impact over the long term. Rather than proceed with the Scheme as planned, which did not take this into account, our council and community should consider ways to address both flood risk and coastal erosion together.

Committing East Lothian Council to a particular line of defence for the next 100 years fails to provide the "managed, adaptive approach" that the Scottish Government advises must be taken in areas of coastal change and which the Scheme's own design statement claims to follow. It also puts unnecessary constraints on the Council's Coastal Change Adaptation Plan, which is being carried out this year, and which will now have to work around a fixed line of defence without consideration of alternatives, in contradiction to the guidance issued by the Scottish Government around these Plans.

The rate of erosion predicted by Dynamic Coast along the Musselburgh coastline contradicts the assumption that the defences will last for 100 years. The report's analysis of erosion on the proposed flood defences showed "direct impact is likely to occur relatively soon, most likely 2030-2040 but potentially earlier" (p.25). This undermines many key aspects of the case for the Scheme:

• The project fails to meet one of its initial stated environmental objectives: that "the scheme will consider the impacts of climate change" (EIA §4.1).
• It directly contradicts the statement in the Environmental Impact Assessment (§12.1) that Scheme assets "have an inherently low vulnerability to climatic factors and the likely variation in these due to climate change. Consequently, this aspect of the climate change assessment is not considered further in this chapter and the focus is on assessing GHG emissions and their potential impact on climate". Thus, this chapter, as applied to these sections of the proposal, is inadequate and cannot be considered to fulfil the legislative requirements.

• The estimates of benefit to cost ratio are now incorrect. Undermining of the proposed coastal defences here will incur much greater maintenance costs (and currently unaccounted for emissions) and likely reduce the standard of protection.

Biodiversity

I object to the current proposals on the grounds that the loss of ancient woodland is unacceptable and the mitigations proposed do not make up for it.

The EIA states that 0.33 hectares of ancient woodland will have to be felled in construction of the scheme, while also highlighting that NatureScot has described such habitat as an 'important and irreplaceable national resource' (§7.42). Further efforts must be made to avoid this loss during the construction period, in particular, at Pinkie Playing Fields where the ancient woodland is used for forest school and otherwise available to school pupils for their wellbeing and education.

I object to the current proposals on the grounds that the biodiversity enhancements are not strong enough and further commitments are needed, e.g. catchment biodiversity improvements and consideration given to installation of a rock ramp for Eskmills Weir. The biodiversity enhancements, as required by NPF4, should be far more ambitious and should include some 'traditional' Natural Flood Management actions such as tree-planting, pond creation or leaky dam structures in the catchment (these actions being included under biodiversity enhancement in recognition of the fact that their flood reduction impact is uncertain and therefore cannot be the main justification for their inclusion).

Further biodiversity enhancements relating to the River Restoration project should be included within the town of Musselburgh, including work to improve the water quality of the Mill Lade and Pinkie Burn (both assessed as limited ecological value in the EIA, Ch7), and the installation of a 'rock ramp' for fish passage at Eskmills Weir, as recommended by Forth Rivers Trust as 'having many benefits over other types of fish passage'.
Concerns over Contribution to Climate Change

I object to the overall carbon impact of the Scheme as it stands because the proposed mitigations in the Environmental Impact Assessment (Ch 12) are all described as 'potential' actions, or actions that 'could' be explored through the proposed Carbon Management Plan. While the EIA gives a range of positive suggestions, without a robust means of enforcing them there is a significant risk that they will be seen as optional.

At a minimum, adherence to the CMP must form part of the procurement process for all contractors. Further, the sustainability credentials of contractors should carry some weight through that procurement - for instance, a company with a large proportion of electric vehicles in their fleet might score more highly than one with all-petrol vehicles (this would be far more effective than simply training drivers in fuel-efficient driving techniques).

Until these suggested secondary mitigations are mandatory, the overall effect on Global Atmosphere – Climate from the Scheme must still be considered Moderate Adverse- Significant, and I object to it on that basis.

Yours sincerely,

[redacted]

[redacted]

Subject: (0395) Debris catcher Dalkeith country park
Sent: 23/04/2024, 17:16:29
From: [redacted]
To: Musselburgh Flood Protection Objections

Follow Up Flag: Follow up
Flag Status: Completed

Dear Sir / Legal Services

I am writing to object to the proposed Musselburgh Flood Protection Scheme 2024. I have an interest in the land affected because I regularly ride my horse on the bridle path that will be decimated by the construction of the debris catcher across the Esk on the west side of the overbridge that carries the A1 dual carriageway and the works to construct access roads to the debris catcher.

These are my reasons for objection to The Scheme:

1/ Disturbance: The construction traffic and all maintenance vehicles will be using a narrow quiet road that I use to ride my horse on for my mental and physical health and wellbeing. This will cause a noise and dust nuisance to me which does not currently exist.

2/ Traffic Generation: The road the debris catcher construction traffic and subsequent debris catcher maintenance traffic propose to use is a narrow private road and used by horse riders, walkers with prams and small children, the movement of livestock, a low volume of cars accessing the livery yard and light farm traffic. It has a speed limit of 10mph. Vehicles must not pass horse riders or horses being led any faster than 10mph. Using this narrow private road for heavy construction and maintenance vehicles will put the other road users at risk and will create a health and safety issue. It will also damage the already fragile road surface.

3/ Unnecessary cost: I really object to tax payer money being wasted to create a new access road to the Esk when there is already a fit for purpose, flatter tarmac access road from Cowpits Road. The proposed site of the debris catcher currently has no access for vehicles of any sort. It is an unsurfaced rural path and totally unsuitable for heavy vehicles. The plans show the access road will need to be constructed over a soft grass livestock field, then through an ancient and well established woodland, down a steep fragile river path that is not robust enough to support heavy construction vehicles and subsequent heavy machinery and vehicles needed to clear the debris catcher. The entire river banking would need to be reinforced before it could be used for this purpose. There is already an asphalt access road to the Esk in Grove which has easy access from Cowpits Road. Therefore a cheaper and less damaging option would be to place the debris catcher to the east of the A1 dual carriageway over bridge, in the vicinity of the railway over bridge and use the existing asphalt access track/road along the Grove to construct the debris catcher and subsequent debris removal. However removing any type of debris catcher from the scheme is the best option because wherever one is constructed, there will be an unacceptable cost and it will cause flooding in the areas upstream where there was previously none. It simply shifts the problem and does not provide a solution.

4/ Environmental Impact: The construction of the access road for the debris catcher will result in the loss of grazing land. The construction and extraction process will disturb and worry the livestock. It will damage and destabilise the fragile high river bank path resulting in landslips.

Hundreds of trees and the natural path will need to be destroyed in order to build a road wide enough for the construction and debris extraction vehicles. The destruction of trees and natural habitat will be damaging to the wildlife in this location. There are deer, foxes, hare, buzzards, bats, squirrels, possibly badgers and other creatures too numerous to list in this woodland. In this world of climate change activists we are supposed to be saving trees not destroying them for a poorly designed flood protection plan that is likely to cause more flooding and environmental damage than if no action was taken at all. It is an absolute disgrace that the designers have concluded that it is acceptable to destroy this area of natural beauty and the wildlife that occupies it when the proposed debris catcher will actually do more harm than good. The proposed mitigation plans are woefully inadequate and poorly thought out,

5/ Flood Risk: Common sense and logic would make a sensible person conclude that the proposal to narrow the river in Musselburgh is more likely to cause flooding in Musselburgh and also damage the environment by causing areas upstream to flood. This will increase erosion and cause multiple landslips along the already fragile and crumbling Esk Valley.

Additionally my experience of debris traps is that when they are blocked and a dam is formed, there are never any Council resources available to deal with the blockages in a timely manner and the surrounding areas become

severely flooded. The debris catcher will ensure more areas along the Esk will be flooded than before. The plans for a debris catcher should be removed completely from the scheme.
6/ Loss of Amenity / Health and Well Being: The construction works would be detrimental to my mental and physical health and wellbeing. The proposed site of the access road and the debris catcher will spoil my enjoyment of the countryside. I ride my horse on this woodland bridle path and ford the river at this point several days a week. Building the access road and debris catcher in this location would rob me of this healthy activity. There are around a hundred or so horse riders that regularly ride horses on the bridle path and ford the river. Robbing them of this natural path and the ability to ford the river to enjoy the bridle path on the opposite side will negatively affect their health and wellbeing too.
The Musselburgh Flood Protection Scheme design has conveniently ignored the requirements for horse riders of which there are hundreds in the local area. The design of the scheme and its active travel plans excludes and discourages horse riders the majority of whom are women and children. The loss of amenity for horse riders must not be ignored and the scheme should be redesigned so horse riders are included and catered for.
7/ Lack of Consultation: There has been no attempt to communicate the proposal for the access road and debris catcher to those who access the Dalkeith Park Estate from the Monkton Gate from Old Craighall. There has been information available at the Whitecraig Gate. Why was the same information not provided at the Monkton Gate where the impact of the Scheme is going to be much more damaging and serious?
Yours Faithfully

[redacted]

22/04/24

Musselburgh Flood Prevention Scheme (2024)

I OBJECT to the above Scheme for the reasons outlined in the following Statements

I SUPPORT a Modified MFPS in accordance with the Postscript on page 5

[redacted]

Tel. No. [redacted] Email address – [redacted]

I am a [redacted] and have been since [redacted]

An abbreviated statement on my CV is given on page 5

Born in [redacted] in [redacted]

School - [redacted] East Lothian.

Engineering Education - [redacted]

I was elected as a member of the [redacted] in [redacted]

1 Background

My involvement with the River Esk in Musselburgh, came after the [redacted] in [redacted], when ELC became responsible for all rivers and watercourses in East Lothian together with the Coastline.

Little had been done over many years to address any problems, necessary repairs or improvements to any of these and I was tasked to review the situation.

Following a flood event in the Esk in 1990, the Lothian Regional Council undertook a Study into this event with Babtie Shaw & Morton, Civil Engineers, however no action was taken to deal with any reoccurrence.

[redacted] the Council to appoint BS&M (now Jacobs) to update the 1990 Study and to advise on the way forward. The Study concluded that this should be extended and they were appointed to undertake this, with Council assistance, to carry out river and bridge surveys, as Jacobs are based in Glasgow.

The Final Report was submitted to the Council in September 2012. [redacted]

A further Option Appraisal Report was prepared, in February 2016 by Kaya Consulting, to supplement the previous Reports

This latest Report (2024) is based on all the previous ones but the extent and cost of the Works greatly exceed what is required for an efficient Flood Prevention Scheme.

2 Introduction

Following a Report in the Scotsman Newspaper (30th December 2023) regarding unexpected and massive increases in the cost of Flood Prevention Schemes in Scotland. The Scottish Government have expressed their great concern at these cost increases. In the case of Musselburgh, the cost has increased from £8.9m to £97.9m. This is an increase of £89m which, in these difficult financial times, the Council must give very careful consideration for all major Capital Projects and Council priorities, before approving this MFPS.

The Musselburgh Courier, in its edition of 25th January 2024, published, as its main story, an article on the MFPS with a revised Cost Estimate, for the total Scheme, of £132.5m.

It stated that the Council had given Outline Approval for the Scheme, without the design being finalised!.

It also revealed that the Council had acquired the Sea Wall at the Ash Lagoons and as owners, are now required to maintain it to retain Fly Ash and to repair the wall, in perpetuity!. It is most unlikely that The Scottish Government will provide any Grant Aid for any repairs to this structure.

The Scottish Government however will provide a grant to cover 80% of the Scheme costs, provided that the works meet their requirements, but they may not cover the cost of any repairs or neglect. These will require to be met by the Council.

3 Financial Considerations – East Lothian Council

Obviously this Scheme is now running completely out of control and it is absolutely necessary for the Council to reappraise it, as a matter of urgency, in the light of this alarming Estimated Cost increase. Further Costs will no doubt be incurred, as the design has not been completed and the timeline for the commencement of the works is further delayed.

Before undertaking any further work, the Council are advised to seek reassurance from the Scottish Government, that they will provide 80% Grant Aid towards the Total Cost of the Scheme as a whole.

To allow the Council to fully discuss the Scheme with the Scottish Government, they may be required to provide the following documents to them, prior to any discussion or meeting.

- A realistic Estimate of the Total Cost of the Scheme, based on 2024 prices.
- A complete list of all the proposed major items of work, including cost estimates and priorities
- A copy of the latest Report. (Final)
- Undertake an independent Peer Review of the Technical Aspects of the Scheme

4 Other Important Considerations

Apart from Musselburgh, East Lothian has many towns and villages which require a degree of flood protection, in particular Haddington , which has suffered serious flooding events even to a greater extent than Musselburgh and it is, hopefully, on the list for a Flood Protection Scheme.

In addition, East Lothian has a long and exposed coastline, where many towns, villages and important infrastructure will require protection, if sea levels rise, in accordance with current sea level rise predictions.

5 Riverscape

The River Esk has been and still is an important focal point in the centre of the town and although constrained by training walls along much of its length, the variety of bridges make up for this, in particular the iconic New Bridge, designed by John Rennie, a famous Engineer who was born in East Linton.

The mature trees lining the manicured river banks are a very important feature in the town and it is important that they are retained, even if they will be close to any proposed flood defences. The defences will require to be designed to suit ([redacted]).

6 Musselburgh Flood Protection Scheme

How long will the construction take before the Scheme becomes fully operational?.

Will the Works be phased to ensure that people in vulnerable areas are given early protection?

Has SEPA been involved in the preparation of the Scheme?.

In addition the number of properties at risk of being flooded in recent Reports varies from 2500 to 3200, this will of course effect the Cost/Benefit Analysis for the Scheme and threatens its viability.

7 River Design Flows

It is understood that the river design flows, used for the latest Report, are not in accordance with the agreement reached with SEPA, Jacobs and ELC, at a meeting held in the Perth SEPA Offices in 2012 and prior to the finalisation of the Musselburgh Flood Study, dated August 2012 ?.

It was decided by all parties at the meeting, that the SEPA Gauging Station, installed in 1961, with a full data history and sited in Musselburgh, was better suited to be used for the design of the Works, rather than a Flood Estimation Handbook Pooling one, which had previously been considered, but giving much higher flow estimates than for the SEPA Gauging Station, which records actual flows entering the town.

It appears that in the latest Scheme Report the author has decided to ignore the findings of the meeting held in 2012, which formed an important part of the Final Report of 2012 and used Hi-flow data instead.

Their baseline is 1990 and any record earlier than this is ignored. The reason given for this is the presumed .'rebound of mine water', after the closure of Monktonhall Colliery. (please see later notes)

The Median Annual Flow (QMED) measured in cumecs (cubic metres/second),is the foundation for designing a Flood Defence. In this instance the Hi-flow is 87 cumecs. The actual flow measured at the SEPA Gauging Station is 71 cumecs, an increase of 24%. On several occasions the date and Hi-flow values, shown in the Report, is not recorded at the SEPA Gauging Station.

A reduction of this magnitude may not require Reservoir Flood Storage, as envisaged by the Author.

This throws doubt on the basis of the design of the Flood Defences and indicates major modifications to the design, with resulting Cost Savings.

Has SEPA been consulted and agrees with the present proposals?.

8 Combined River & Tidal Flooding

The flow in River Esk is influenced by the tides twice per day and a Joint Probability of Exceedance Analysis is required to check the likelihood of this occurring during the estimated lifetime of the Flood Defences. In general this is unlikely, but a check is required. The duration of any tide at its highest point is an hour, at most, before it ebbs.

The Esk is tidal up to the New Bridge during the max. Annual Spring Tides in the Spring and Autumn.

North Sea Storm Surges can occur but are impossible to predict. In 1953 there was a major North Sea Storm Surge on a high Spring Tide, which severely damaged Canvey Island and the Netherlands, killing many. I cannot find any evidence of flooding in Musselburgh at this time.

Global Sea Level Rise Predictions have not been proven to affect the Firth of Forth, to date.

9 Monktonhall Colliery – Mine Water Control and Mine Water Rebound

The sinking of the two shafts commenced in 1954. After completion of the head frames, surface infrastructure and buildings, coal production commenced in 1964.

Ingress of water was a major problem throughout the life of the Colliery and strict control was constantly required, with efficient pumping, during development and to keep the mine operational. Mine water was pumped to reed beds for settlement. Before being discharged into a nearby burn, it was mixed with a finely ground limestone powder, to reduce its acidity. The treated water was conveyed, under gravity, to the River Esk, discharging into the river at the dog leg, upstream of the weir at the former Paper Mill and well upstream of the SEPA Gauging Station.

The Colliery ceased production in 1997 but much work was still required to secure the site, to demolish buildings, structures and the shafts infilled. The two shafts were infilled with rock aggregate, one to the surface, where rising water runs into settlement ponds and the other is capped 40ft below the surface, with the concrete plug, extending to the surface. Pumping ceased in 1998.

As the concrete lined shafts were over 930m deep, it can be expected that any mine water, rising from workings at this depth, would be recorded at the SEPA Gauging Station and will have ceased after a few years.

10 Predicted Sea Level Rise

As it is most unlikely, if ever, that the full extent of Global Sea Level Rise will be experienced in the short or medium term, along the East Lothian Coast, therefore it may be prudent to delay the construction of any major permanent works, deemed to be necessary, until the Rate of Rise, if any, is confirmed by local monitoring.

11 Reservoirs

Are the two Scottish Water owned reservoirs, which are located in Midlothian and presently being considered for upstream flood water storage, covered under the Reservoirs Act?. Does SW agree with the proposed works.

Will the Council be involved in the maintenance or costs of maintaining the reservoirs?.

In the event that Scottish Water wish to dispose of the reservoirs, it would appear that the Council will be required to acquire them, as they would form an essential part of the MFPS, with unavoidable Revenue Costs.

Will Midlothian Council benefit from the adaption of the reservoirs to store flood water and, if so, should they share the cost?.

12 Ash Lagoons

The ash retaining wall, fronting the sea, has been transferred to the Council, therefore is owned by Council. It is the owners responsibility to maintain it in an excellent condition to retain the pulverised fly ash, which was deposited in the ash lagoons for the economic operation of the Cockenzie Coal Fired Power Station. This is a major liability and the responsibility for this must now remain in perpetuity, with the East Lothian Council.

If any flood prevention works are required at this location, these should be positioned on Council owned land, but not on the ash lagoons.

13 Musselburgh Mill Lade & Pinkie Burn

I have a plan of Musselburgh, dated 1824, which clearly shows the routes of the Mill Lade & Pinkie Burn.

The Mill Lade powered 18 water wheels along its course, making Musselburgh an important Industrial and prosperous Town, on the East Coast of Scotland.

The Lade runs from the weir, at the site of the former Paper Mill, to discharge into the Esk, just downstream of the Goose Green weir. It no longer serves any useful purpose other than acting as a surface water drain and providing fresh water to irrigate the Race Course, gratis! There are other ways.

The Pinkie Burn is connected to the Mill Lade at a manhole in Balcarres Place. There is also a large dia., unused, pipe running from the Paper Mill site to connect to the Mill Lade at its outlet.

All outlets to the Esk should be provided with automatic valves with manual override facilities.

14 Postscript

Any Public Funds allocated for a Flood Protection Project must be used for this purpose only.

Any additional considerations involving modifications to the Proposals, to accommodate other interests which affect the overall Cost of the Project must be funded separately eg. the provision of 5metre wide cycleways, where none exist today.

This will involve the production of 2 Cost Estimates.

1 The Flood Prevention Scheme, as required, to protect the Public, Businesses, Infrastructure and Public Utilities etc. from Flooding.

2 All items listed under 1, but including any additional items not required for Flood Protection.

15 Abbreviated Version of [redacted] CV.

[redacted]

22nd April 2024

CARLO GRILLI

SERVICE MANAGER

LEGAL SERVICES

EAST LOTHIAN COUNCIL

JOHN MUIR HOUSE

HADDINGTON

EH 41 3HR

20th April 2024

Carlo Grilli
Service manager – Governance
Legal Services
East Lothian Council
John Muir House
Haddington
EH41 3HA

[redacted]

Dear Mr Grilli,

I am writing to object to the recently published Musselburgh Flood Prevention Scheme.

There are several points I wish to make.

Lack of information being directly given to the residents directly affected but the proposed construction of the [redacted] Bridge. I have not had any communication directly from the council about this.

How can they even think that removing trees is an option? Mature trees soak up hundreds of litres of water ever hour and that means they help reduce flooding. Trees are obviously good for the air quality and the environment. The council tried to replace some of the trees that have been removed by placing a huge ugly "Living wall" outside the Police Station a few year ago to try and improve the air quality, but this failed miserably. So how can they now agree to the removal of a significant number of trees to make way for a concrete cycle paths?

The new bridge that is planned has very long ramps that will be directly out side my house I do not want to be looking at a concrete wall, when I live in such a beautiful place.

There is no reason to put a bridge there in the first place.

Any communication with me regarding this is required to be in writing by post.

Please acknowledge receipt of this letter of objection.

I look forward to being advised of the next steps are.

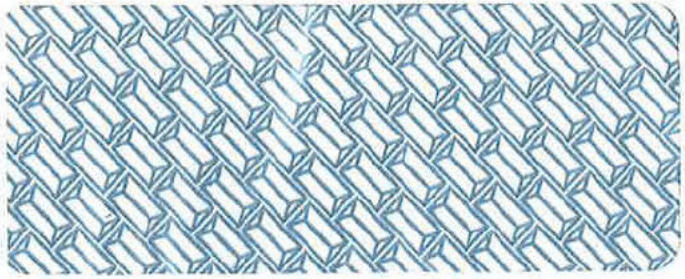
Yours sincerely,

[redacted]

[redacted]

[redacted]

EAST LOTHIAN COUNCIL
RECEIVED
23 APR 2024
LEGAL & PROCUREMENT



ELC
CUSTOMER SERVICES
23 APR 2024